ÍNDICE DE PLANOS

TOMO VI

Nº	Título
SECTOR 4	
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045-2/6	Canal Alto Pichasca. Planta y Perfil Longitudinal
045-3/6	Canal Alto Pichasca. Planta y Perfil Longitudinal
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045-6/6	Canal Alto Pichasca. Planta, Perfil Longitudinal y Detalles
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CANAL ALTO PICHASCA

PLANTA GENERAL
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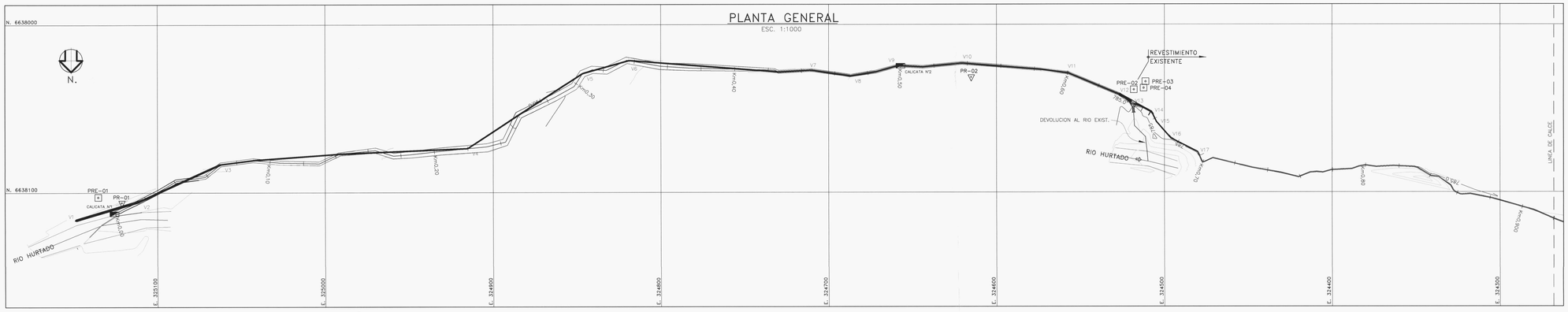


CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE	COORDENADAS UBICACION		VERTICE	ANGULO	RADIO	TANGENTE	DESARROLLO	INICIO CURVA	FIN CURVA
N°	ESTE (m)	NORTE (m)		(G)	(m)	(m)	(m)	(m)	(m)
1	325149.1321	6638116.4684	0.000		0			0.0	0.0
2	325110.9970	6638105.1990	39.771	-8.84	2.5	0.17	0.35	39.6	39.8
3	325062.5404	6638083.1979	92.981	23.08	2.5	0.46	0.91	92.5	93.4
4	324815.1.352	6638013.8043	241.68	-32.72	2.5	0.65	1.29	240.0	241.3
5	324846.6950	6638029.1924	322.36	18.16	2.5	0.36	0.71	322.0	322.7
6	324820.3741	6638021.2403	349.97	22.07	2.5	0.44	0.87	349.5	350.4
7	324770.3135	6638027.2219	460.10	5.86	2.5	0.12	0.23	459.9	460.2
8	324688.5775	6638030.6544	483.69	-22.82	2.5	0.45	0.90	483.2	484.1
9	324608.6664	6638024.5729	513.65	11.00	2.5	0.22	0.43	513.4	513.8
10	324620.6210	6638023.0822	560.74	8.44	2.5	0.17	0.33	560.5	560.8
11	324571.1221	6638028.8944	614.10	19.26	2.5	0.38	0.76	613.8	614.6
12	324528.6536	6638041.8917	647.15	8.65	2.5	0.17	0.34	647.0	647.3
13	324511.2626	6638047.3092	658.83	-1.21	2.5	0.02	0.05	658.7	658.8
14	324507.6387	6638052.0714	689.12	41.71	2.5	0.85	1.64	688.2	689.8
15	324504.8578	6638058.0679	699.12	-18.47	2.5	0.37	0.73	698.7	699.4
16	324496.1530	6638067.9042	686.86	-23.76	2.5	0.47	0.93	686.5	689.2
17	324480.1171	6638078.1743	706.83	43.88	2.5	0.88	1.76	705.9	707.5

CUADRO ENTREGAS PREDIALES CANAL PICHASCA

Km.	DIMENSIONES(m)					
	CANAL (m.)		DIAMETRO ENTREGA (mm.)	GRADA (m.)		COTAS FONDO
	B	H		a	i	EXIST. PROY.
0.642150	0.54	0.62	75	0.05	1.50	778.42

CUADRO DE PR

PR	NORTE	ESTE	COTA(m.)
01	6638105.98	325121.31	794.23
02	6638031.41	324615.08	793.02
03	6638126.49	324143.43	784.19
04	6638025.59	323672.35	783.19

CUADRO PR ESTACION

PRE	NORTE	ESTE	COTA(m.)
01	6638102.68	325135.39	794.04
02	6638038.95	324518.20	791.17
03	6638034.16	324511.26	797.68
04	6638037.98	324512.36	794.67
05	6637987.94	323445.48	787.87
06	6637985.45	323428.78	787.52

CALICATA N° 1
Km.0,0000

GRAVA DE ORIGEN FLUVIAL EN MATRIZ ARENOSA, ESTRATO COLOR GRIS, HUMEDAD MEDIA, COMPACIDAD MEDIA, CLASTOS SANOS Y ANGULOSOS DE TAMAÑO MAXIMO 12"

0.50

A 0.50m. DE PROFUNDIDAD SE DETECTAN BOLONES DE 20" DE DIAMETRO

SE DETECTO LA PRESENCIA DE LA NAPA FREATICA A 0.30m DE PROFUNDIDAD EN LA FECHA DE EXPLORACION.

CALICATA N° 2
Km.0,0500

0.70

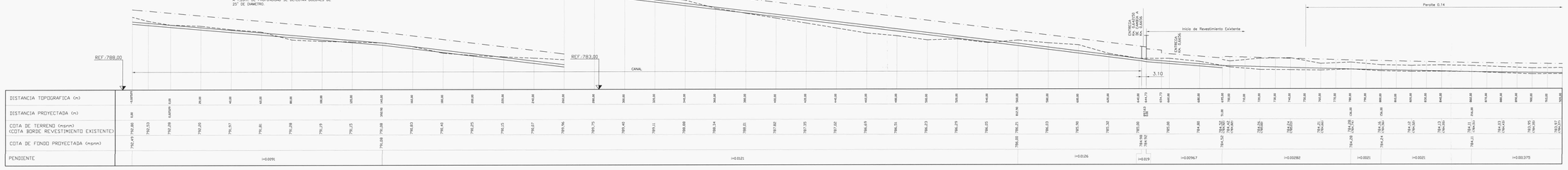
1.20

GRAVA DE ORIGEN FLUVIAL EN MATRIZ ARENOSA, ESTRATO COLOR GRIS, HUMEDAD MEDIA, COMPACIDAD MEDIA, CLASTOS SUB REDONDEADOS Y ANGULOSOS DE TAMAÑO MAXIMO 5"

GRAVA DE ORIGEN FLUVIAL EN MATRIZ ARENOSA, ESTRATO COLOR GRIS, HUMEDAD MEDIA, COMPACIDAD MEDIA, CLASTOS SANOS Y ANGULOSOS DE TAMAÑO MAXIMO 12"

A 1.20m. DE PROFUNDIDAD SE DETECTAN BOLONES DE 25" DE DIAMETRO.

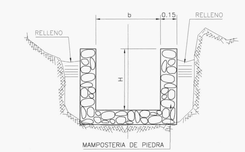
PERFIL LONGITUDINAL
ESC. H.=1:1000
V.=1:100



CUADRO DE SECCIONES

TRAMO (Km)	SECCIÓN b (m)	SECCIÓN H (m)	OBS.
0.000 - 0.642	0.80	0.80	Revestimiento de hormigón existente. Canal Peraltado en 0.014 m
0.642 - 2.216	0.54	0.62	

SECCION TIPO
S/E



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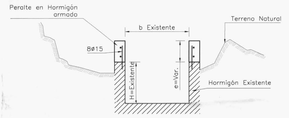
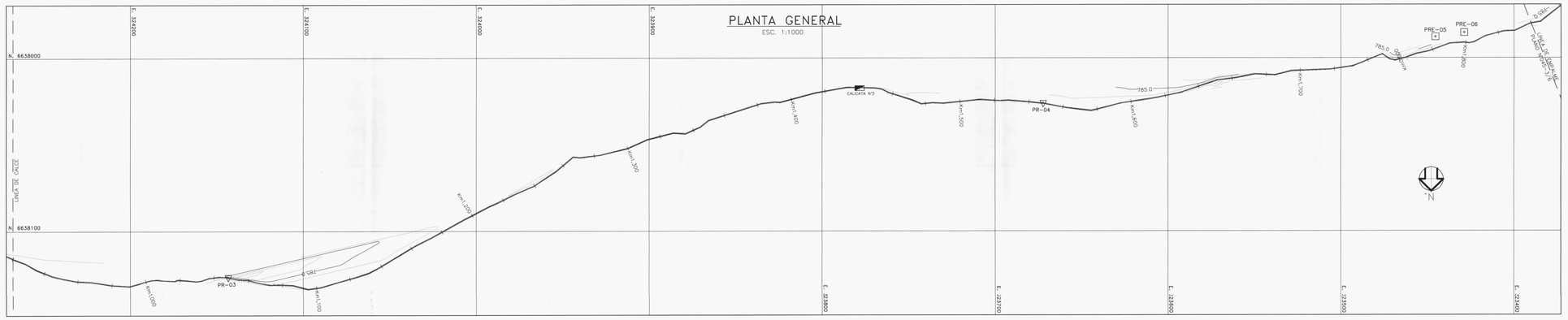


PLANTA GENERAL
ESC. 1:1000



PERFIL LONGITUDINAL
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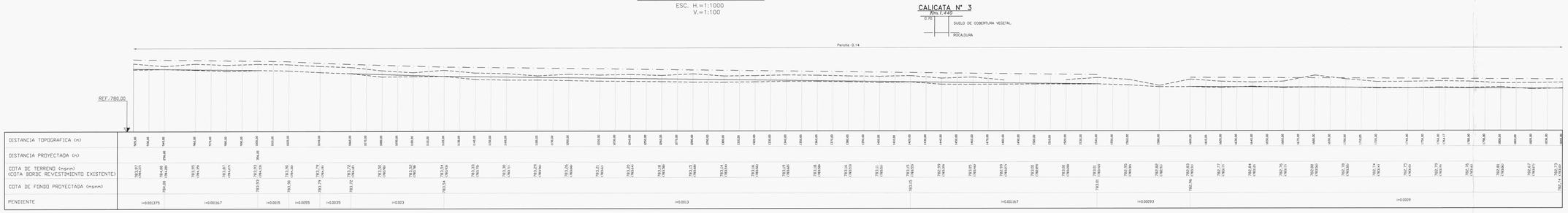


DISPOSICION DE LAMINAS

SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS
- PARA VER DETALLES ENTREGAS PREDIALES VER PLANO N°045-6/6

GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISION NACIONAL DE RIEGO

CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010

Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo

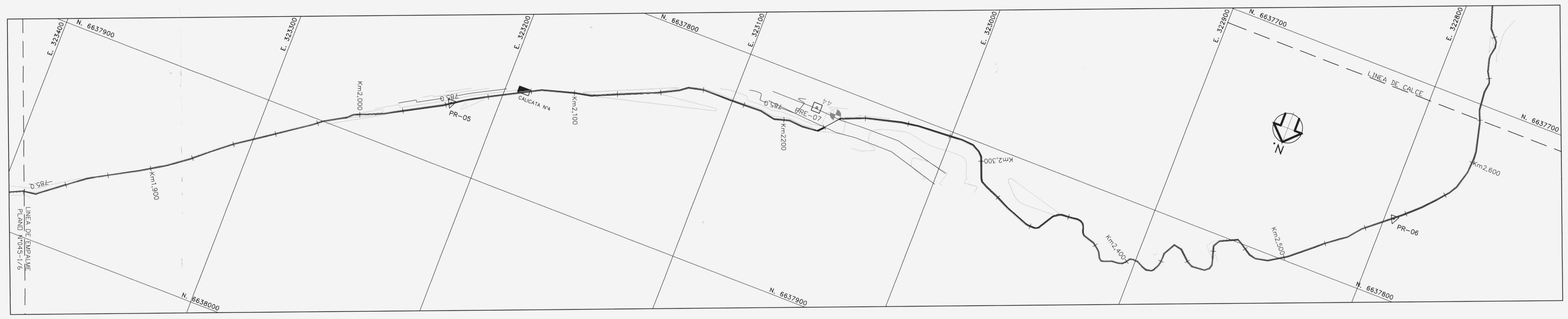
Título Plano: CANAL ALTO PICHASCA PLANTA Y PERFIL LONGITUDINAL

Lámina: 045-1/6

CANAL ALTO PICHASCA

PLANTA GENERAL

ESC. 1:1000



CUADRO DE PR

PR	NORTE	ESTE	COTA(m.)
05	6637870.78	323220.94	782.45
06	6637763.79	322735.75	781.94
07	6637362.57	322623.99	781.94

CUADRO PR ESTACION

PRE	NORTE	ESTE	COTA(m.)
07	6637812.05	323062.68	784.69
08	6637508.94	322663.89	786.18
09	6637411.11	322606.87	786.81
10	6637381.51	322600.28	784.76

CALICATA N° 4
Km.3.668

0.80	RELLENO ARENO-ARCILLOSO CON PRESENCIA DE RACILLAS
1.20	ROCA FRACMENTADA
	ROCA DURA

PERFIL LONGITUDINAL

ESC. H.=1:1000
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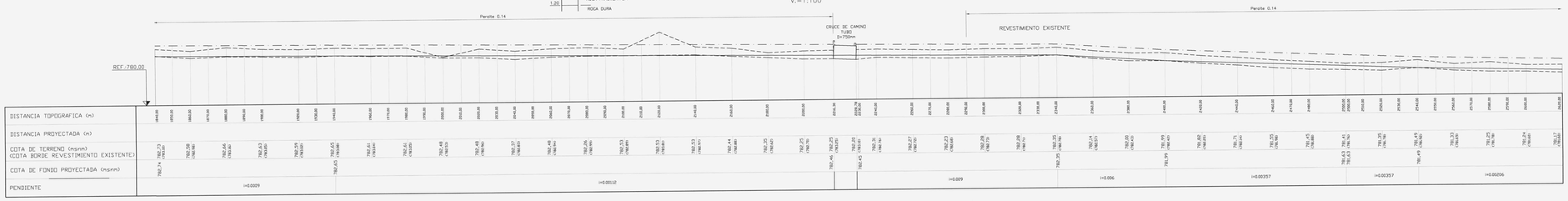
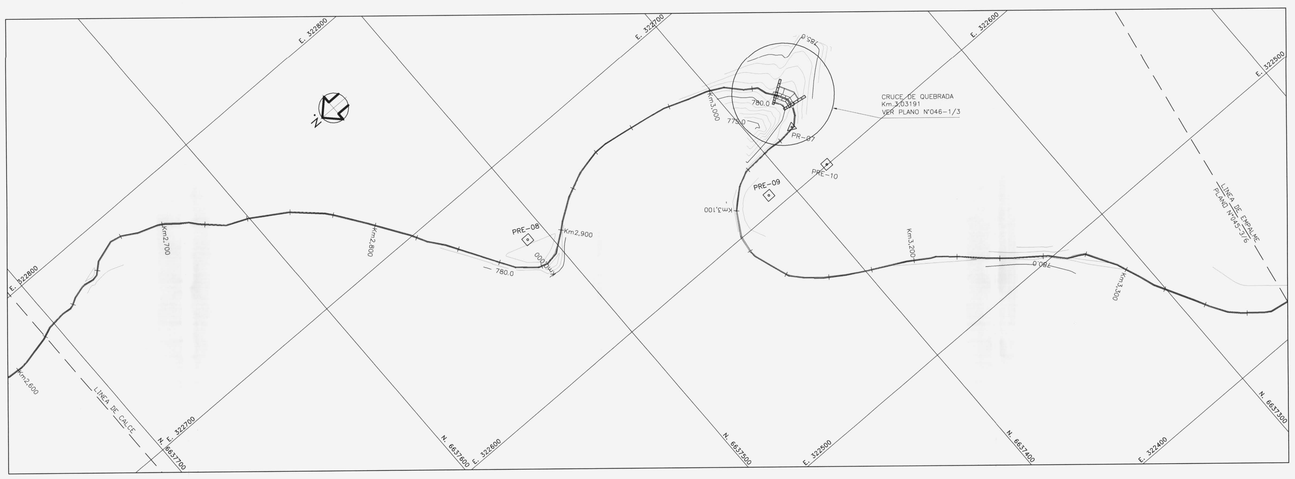


CUADRO DE SECCIONES

TRAMO (Km)		SECCION b (m)	SECCION H (m)	OBS.
0.642	2.216	0.54	0.62	Revestimiento de hormigón existente. Canal Peraltado en 0.014 m
2.216	2.230	D=750 mm	D=750 mm	Tuberia existente
2.230	3.031	0.54	0.62	Revestimiento de hormigón existente. Canal Peraltado en 0.014 m

PLANTA GENERAL

ESC. 1:1000



PERFIL LONGITUDINAL

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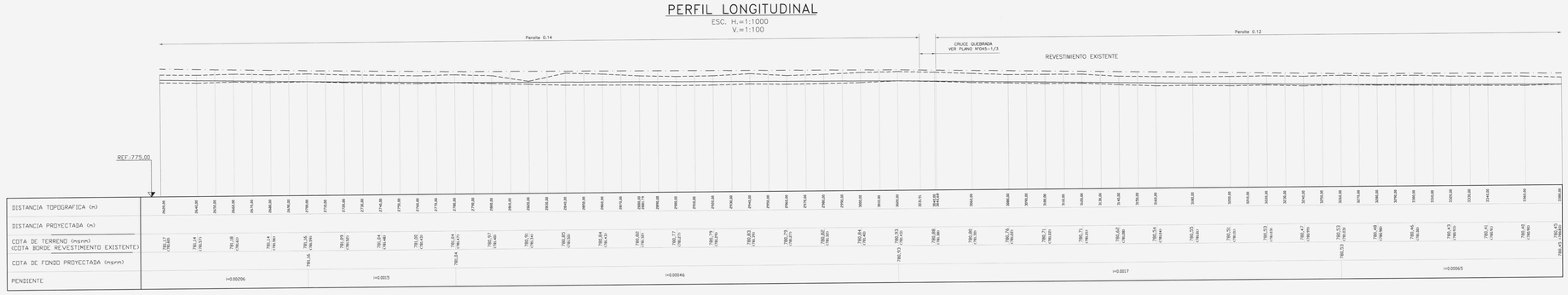
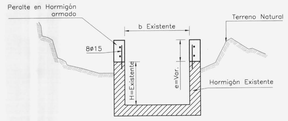


CUADRO DE SECCIONES

TRAMO (Km)		SECCION b (m)	SECCION H (m)	OBS.
2.230	3.031	0.54	0.62	Revestimiento de hormigón existente. Canal Peraltado en 0.014 m
3.031	3.668	0.50	0.62	Revestimiento de hormigón existente. Canal Peraltado en 0.012 m

SECCION TIPO PERALTADA

S/E



DISPOSICION DE LAMINAS

SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	VO	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERA DE PIEDRAS
- PARA VER DETALLES ENTREGAS PREDIALES VER PLANO N°045-6/6

GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISION NACIONAL DE RIEGO

Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo

Título Plano: CANAL ALTO PICHASCA
PLANTA Y PERFIL LONGITUDINAL

CONSULTOR	Escala	Proyección Cartográfica	Fecha	Lámina:
GCF Ingenieros Ltda.	Indicadas	UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	FEBRERO 2010	045-2/6

CANAL ALTO PICHASCA

PLANTA GENERAL

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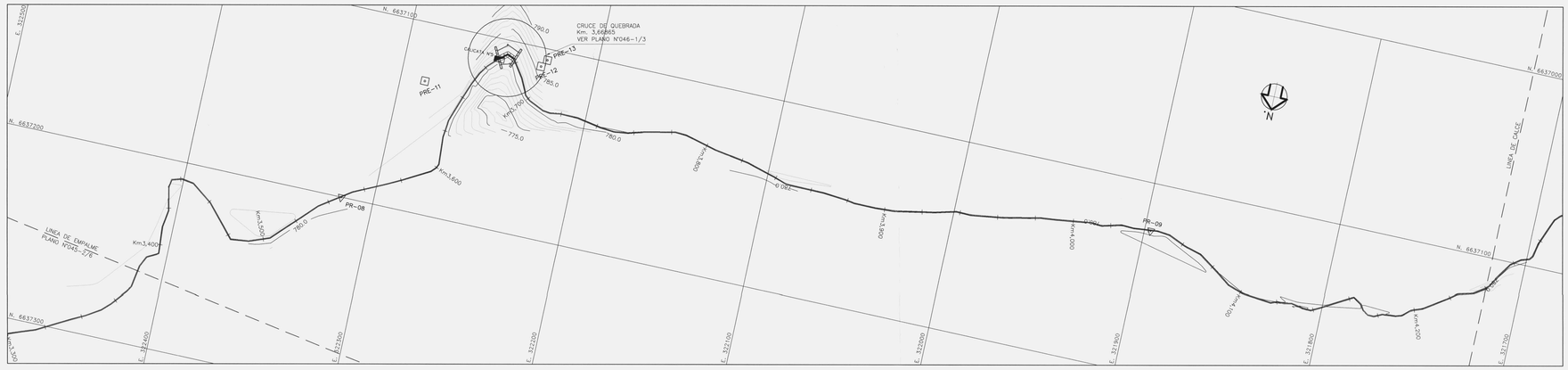

PERFIL LONGITUDINAL

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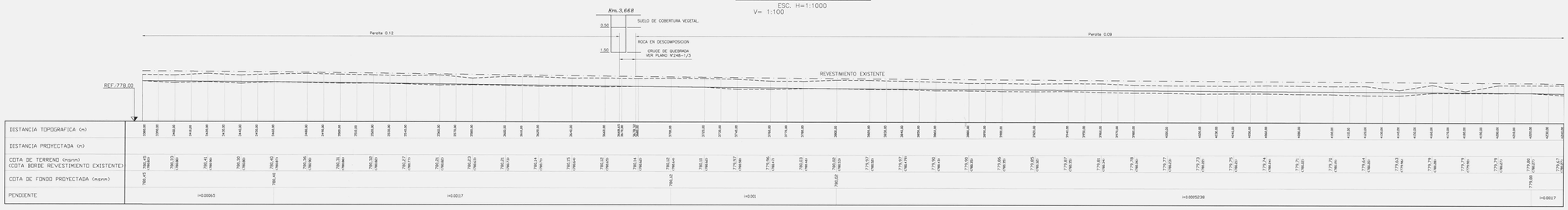

SECCION TIPO PERALTADA

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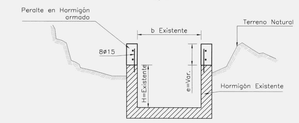
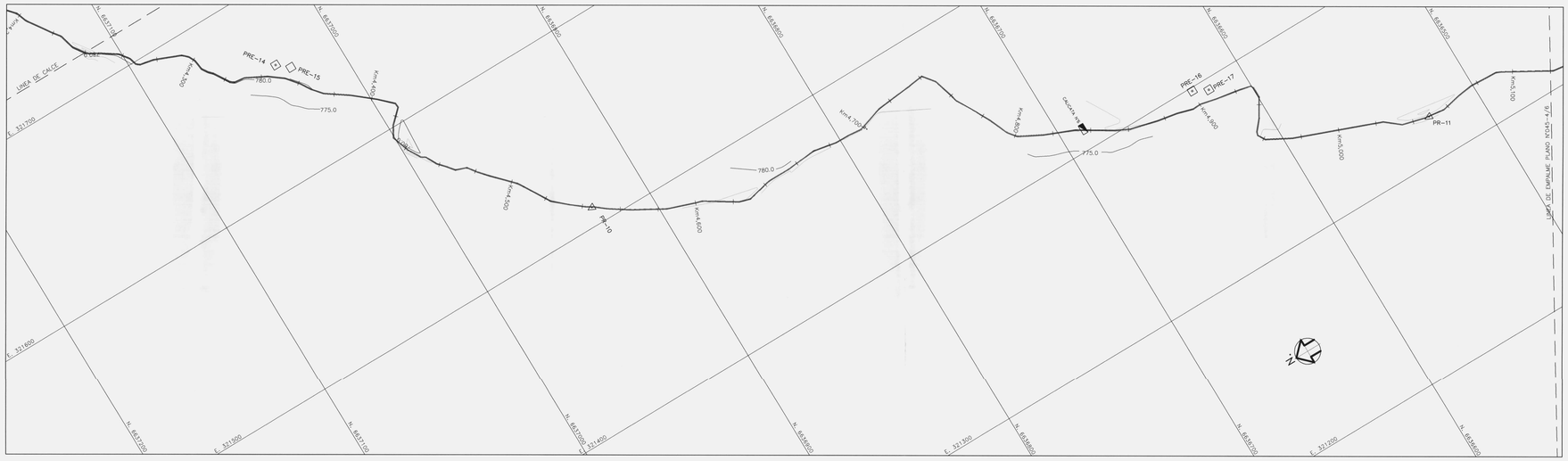


CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
3.031	3.668	0.50	0.62	Revestimiento de hormigón existente. Canal Peraltado en 0.012 m
3.668	4.707	0.68	0.60	Revestimiento de hormigón existente. Canal Peraltado en 0.009 m

PLANTA GENERAL

ESC. 1:1000



CUADRO DE PR

PR	NORTE	ESTE	COTA(m.)
08	6637200.10	322316.93	780.86
09	6637124.35	321896.69	780.27
10	6636929.93	321509.48	779.26
11	6636528.24	321322.10	777.55

CUADRO PR ESTACION

PRE	NORTE	ESTE	COTA(m.)
11	6637130.71	322287.11	796.56
12	6637109.99	322228.93	786.71
13	6637105.99	322226.29	787.62
14	6637033.68	321660.01	784.56
15	6637027.48	321654.83	784.72
16	6636628.59	321398.24	782.79
17	6636620.19	321394.26	782.62

CUADRO DE ENTREGAS PREDIALES CANAL ALTO PICHASCA

Km.	DIMENSIONES(m) CANAL (m.) b	CANAL (m.) H	DIAMETRO ENTREGA (mm.)	GRADA (m.) a	GRADA (m.) i	COTAS FONDO EXIST.	COTAS FONDO PROY.
4,700710	0.68	0.60	0.75	0.15	1.50	778.65	

PERFIL LONGITUDINAL

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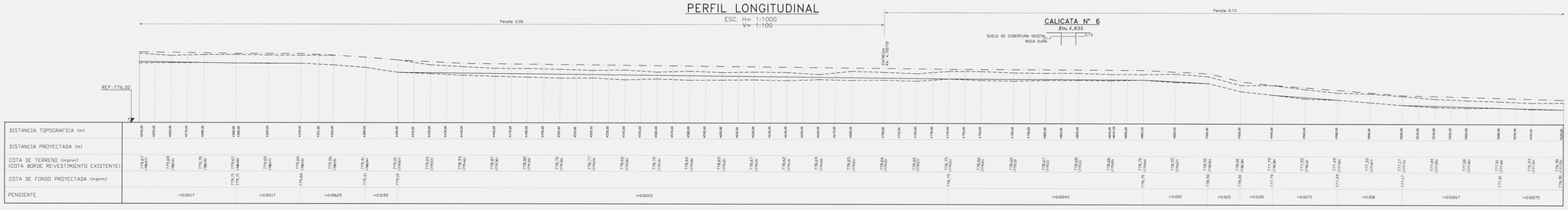


CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
3.668	4.707	0.68	0.60	Revestimiento de hormigón existente. Canal Peraltado en 0.009 m
4.707	5.680	0.54	0.60	Revestimiento de hormigón existente. Canal Peraltado en 0.013 m

DISPOSICION DE LAMINAS

SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	VC	COTA FONDO PROY.	C.F.P.
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS
- PARA VER DETALLES ENTREGAS PREDIALES VER PLANO N°045-6/6

GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISIÓN NACIONAL DE RIEGO

CONSULTOR: GCF Ingenieros Ltda.

Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo

Escala: Indicadas

Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956

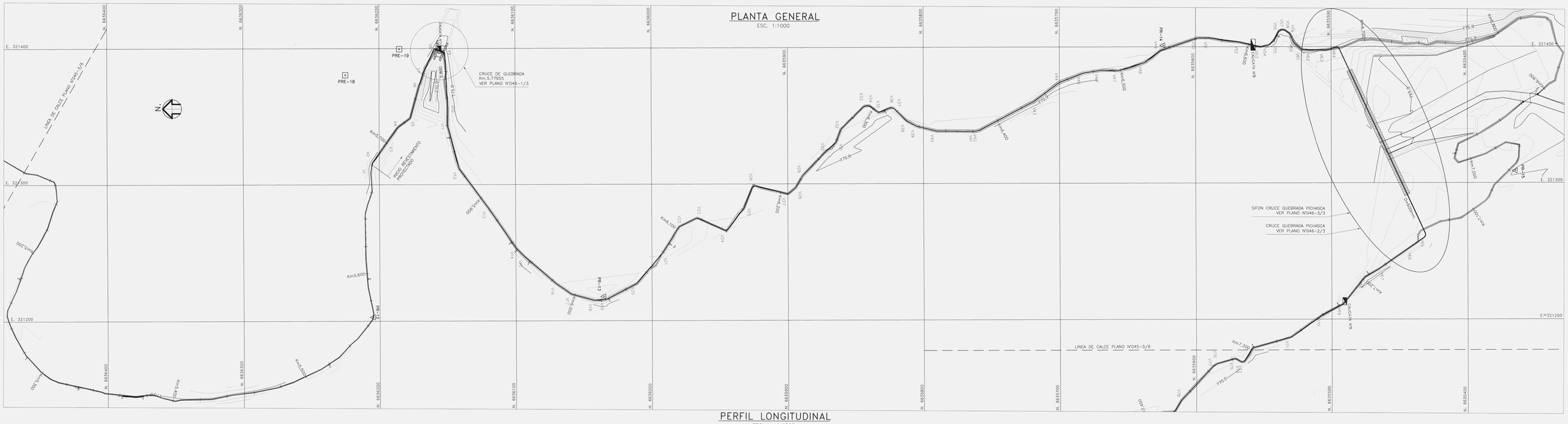
Fecha: FEBRERO 2010

Título Plano: CANAL ALTO PICHASCA PLANTA Y PERFIL LONGITUDINAL

Lámina: 045-3/6

CANAL ALTO PICHASCA

PLANTA GENERAL
ESC. 1:1000



PERFIL LONGITUDINAL
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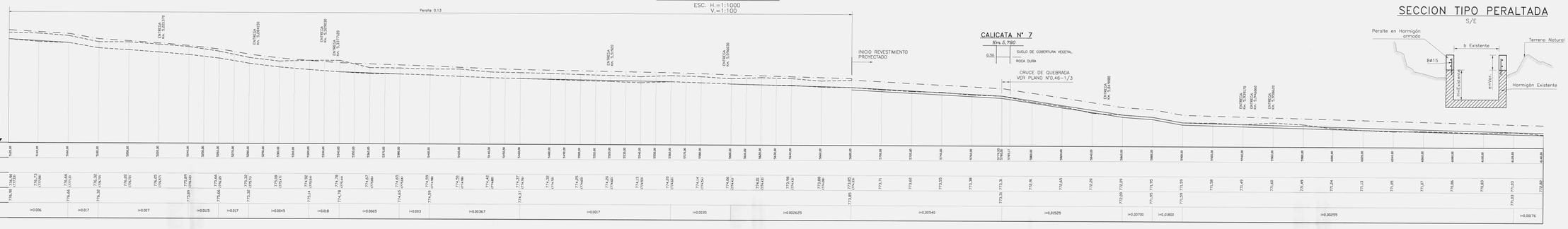

SECCION TIPO PERALTADA
S/E

CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
4.707	5.680	0.54	0.60	Revestimiento de hormigón existente. Canal Peraltado en 0.013 m
5.680	5.900	0.70	0.60	
5.900	5.946	0.70	0.60	
5.946	6.580	0.90	0.75	

PERFIL LONGITUDINAL
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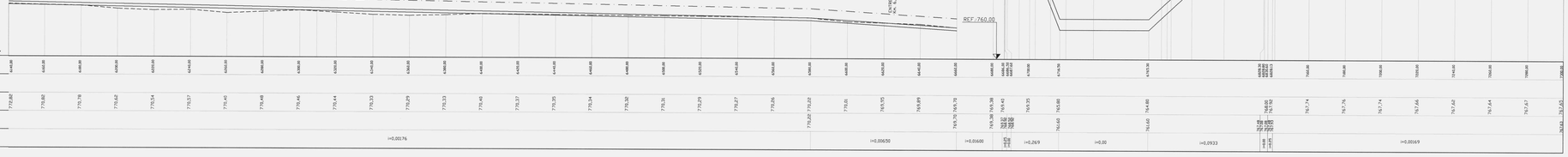


CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE N°	COORDENADAS ESTE (m)	COORDENADAS NORTE (m)	UBICACION VERTICE (m)	UBICACION ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	CURVA (m)	INICIO CURVA (m)	FIN CURVA (m)
1	321314.138	6636205.380	5681		0				0.0	0.0
2	321315.828	6636205.136	5681.71	30.21	2.5	0.60	1.18	1.1	2.3	3.5
3	321330.730	6636194.506	5700.00	0.31	0	0.00	0.00	0.0	20.0	20.0
4	321342.250	6636186.240	5714.19	20.42	2.5	0.40	0.80	33.8	34.6	68.4
5	321348.809	6636177.177	5725.38	-42.99	2.5	0.88	1.69	44.5	46.2	90.7
6	321372.900	6636170.536	5750.37	3.23	2.5	0.06	0.13	70.2	70.3	140.5
7	321381.915	6636167.051	5759.86	6.85	0	0.00	0.00	79.8	79.8	159.6
8	321399.672	6636159.396	5779.54	96.20	0	0.00	0.00	99.4	99.4	198.8
9	321396.868	6636131.726	5787.76	73.17	0	0.00	0.00	107.7	107.7	215.4
10	321357.715	6636148.616	5826.97	4.46	0	0.00	0.00	146.9	146.9	293.8
11	321341.267	6636149.851	5841.40	-17.55	2.5	0.55	0.69	161.0	161.6	322.6
12	321311.811	6636141.495	5873.96	-24.19	2.5	0.48	0.95	193.4	194.3	387.7
13	321283.000	6636120.111	5909.80	2.23	2.5	0.04	0.09	229.8	229.9	459.7
14	321253.543	6636098.732	5945.66	-10.03	2.5	0.20	0.39	265.4	265.7	531.1
15	321247.231	6636083.711	5954.39	-6.53	2.5	0.13	0.26	274.4	274.5	548.9
16	321226.987	6636069.990	5985.57	-6.55	2.5	0.13	0.26	305.3	305.6	610.9
17	321219.547	6636056.196	5998.68	-21.30	2.5	0.42	0.84	318.1	318.9	637.0
18	321214.639	6636042.479	6016.02	-22.43	2.5	0.45	0.88	335.5	336.3	671.8
19	321215.671	6636033.731	6024.80	-24.84	2.5	0.48	0.94	344.2	345.2	689.4
20	321227.200	6636011.604	6050.24	-23.49	2.5	0.46	0.91	369.7	370.7	740.4
21	321248.125	6635982.588	6078.88	-7.61	2.5	0.15	0.30	398.4	398.6	797.0
22	321268.674	6635979.733	6102.28	33.98	2.5	0.68	1.33	421.4	422.8	844.2
23	321275.181	6635966.442	6117.08	55.85	2.5	1.17	2.19	436.3	437.9	874.2
24	321265.545	6635944.981	6140.60	-85.10	2.5	1.87	3.34	458.3	461.6	919.9
25	321282.108	6635932.229	6161.50	-16.91	2.5	0.33	0.66	480.2	480.9	961.1
26	321298.884	6635925.374	6179.65	90.74	2.5	2.16	3.56	498.5	500.1	998.6
27	321292.482	6635899.717	6206.04	-61.17	2.5	1.30	2.40	524.5	525.4	1049.9
28	321297.313	6635883.702	6214.01	-20.53	2.5	0.41	0.81	531.7	532.5	1065.0
29	321305.983	6635868.829	6223.61	14.67	2.5	0.29	0.58	541.4	542.0	1083.4
30	321323.734	6635871.882	6248.17	5.95	2.5	0.12	0.23	566.1	566.4	1132.5
31	321330.226	6635864.379	6258.07	-31.60	2.5	0.63	1.24	576.0	577.3	1153.3
32	321336.966	6635860.714	6268.48	27.85	2.5	0.56	1.09	586.0	587.1	1173.1
33	321356.674	6635843.390	6292.68	42.84	2.5	0.87	1.68	609.8	611.5	1221.3
34	321357.245	6635838.218	6296.36	48.48	2.5	1.00	1.90	613.3	615.2	1228.5
35	321352.063	6635833.056	6304.82	-66.68	2.5	1.43	2.63	621.7	623.0	1244.7
36	321355.826	6635823.526	6314.70	42.47	2.5	0.87	1.67	631.4	633.1	1264.5
37	321355.171	6635821.614	6317.12	32.21	2.5	0.65	1.26	633.8	635.2	1268.9
38	321345.884	6635812.264	6330.28	-18.87	2.5	0.37	0.74	647.4	648.1	1295.5
39	321341.997	6635804.897	6338.63	-15.95	2.5	0.31	0.63	655.8	656.4	1312.2
40	321338.569	6635790.584	6353.32	-14.12	2.5	0.28	0.55	670.5	671.1	1341.6
41	321338.194	6635782.304	6361.63	-13.85	2.5	0.27	0.54	678.8	679.4	1358.2
42	321338.854	6635758.118	6384.86	-17.84	2.5	0.35	0.70	702.0	702.7	1404.7
43	321360.111	6635718.743	6430.49	-9.74	2.5	0.18	0.36	747.6	747.9	1495.5
44	321374.004	6635699.990	6453.81	17.04	2.5	0.34	0.67	771.0	771.6	1542.6
45	321386.732	6635682.640	6472.44	13.34	2.5	0.26	0.52	789.7	790.2	1579.9
46	321382.842	6635668.802	6485.64	12.15	2.5	0.24	0.48	802.9	803.4	1606.3
47	321382.441	6635654.464	6498.79	-21.28	2.5	0.43	0.86	815.9	816.7	1632.6
48	321388.413	6635637.405	6518.76	-21.41	2.5	0.42	0.84	835.8	836.6	1672.4
49	321387.277	6635625.505	6533.82	19.79	2.5	0.39	0.78	850.7	851.5	1701.4
50	321406.565	6635598.324	6562.32	22.11	2.5	0.44	0.87	879.3	880.2	1759.5
51	321426.406	6635589.458	6571.19	7.99	2.5	0.16	0.31	888.1	888.4	1776.5
52	321463.132	6635566.803	6594.08	4.70	2.5	0.09	0.18	911.0	911.2	1822.2
53	321390.863	6635552.005	6605.24	-29.22	2.5	0.58	1.15	926.1	927.3	1853.4
54	321401.381	6635545.925	6615.50	-30.00	2.5	0.60	1.18	936.3	937.5	1873.8
55	321404.446	6635543.353	6620.20	-25.03	2.5	0.50	0.98	937.1	938.1	1875.2
56	321411.452	6635538.842	6628.05	-39.69	2.5	0.79	1.54	944.9	946.5	1891.0
57	321413.560	6635536.728	6635.44	38.16	2.5	0.74	1.44	947.0	948.5	1895.3
58	321412.334	6635534.561	6637.82	54.67	2.5	1.06	1.97	949.4	951.3	1900.8
59	321409.528	6635530.579	6637.53	31.41	2.5	0.63	1.23	954.2	955.4	1909.6
60	321402.808	6635527.626	6644.95	-26.43	2.5	0.52	1.04	961.7	962.7	1924.4
61	321387.861	6635521.749	6652.48	-44.01	2.5	0.90	1.73	968.8	970.5	1939.3
62	321387.067	6635513.836	6660.28	0.00	0	0.00	0.00	977.2	977.2	1954.4
63	321387.604	6635503.870	6670.40	-20.00	2.5	0.40	0.78	987.2	987.9	1975.1
64	321400.081	6635494.516	6679.83	30.11	2.5	0.61	1.16	994.8	995.9	1990.7
65	321381.172	6635476.312	6693.02	89.08	2.5	2.10	3.50	1147.3	1150.8	2301.6
66	321251.584	6635468.557	6849.8	0.00	0	0.00	0.00	1165.1	1165.1	2330.2
67	321238.999	6635485.102	6875.35	5.43	2.5	0.11	0.21	1190.9	1191.1	2382.0
68	321220.151	6635474.668	6887.57	-23.63	2.5	0.47	0.93	1202.7	1203.6	2406.3
69	321211.237	6635491.544	6912.84	25.88	2.5	0.52	1.02	1228.0	1229.0	2457.0
70	321203.060	6635506.632	6926.23	-7.96	2.5	0.16	0.31	1241.5	1241.8	2483.0
71	321186.798	6635530.184	6958.63	21.83	2.5	0.43	0.86	1273.9	1274.7	2548.6
72	321178.058	6635508.703	6988.21	-48.68	2.5	1.01	1.81	1303.8	1305.6	2609.4

CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
5.946	6.580	0.90	0.75	
6.580	6.680	0.90	0.75	
6.680	6.686	0.90	0.75	
6.686	7.300	D=750 mm	D=750 mm Sifón	

CUADRO DE ENTREGAS PREDIALES CANAL ALTO PICHASCA

Km.	DIMENSIONES(m) CANAL (m.) B	H	DIAMETRO ENTREGA (mm.)	GRADA (m.) α	I	COTAS FONDO EXIST.	PROY.
5,221370	0.650	0.50	0,75	0.05	1.0	776.05	
5,284150	0.650	0.50	0,75	0.05	1.0	775.32	
5,329030	0.650	0.50	0,75	0.05	1.0	775.14	
5,377120	0.700	0.50	0,75	0.10	1.0	774.64	
5,519200	0.650	0.50	0,75	0.10	1.0	774.25	
5,596030	0.650	0.50	0,75	0.05	1.0	774.14	
5,849080	0.60	0.50	0,75	0.05	1.0		772.26
5,939170	0.60	0.50	0,75	0.05	1.0		771.49
5,946060	0.60	0.50	0,75	0.05	1.0		771.47
5,958620	0.60	0.50	0,75	0.50	1.0		771.44
6,309320	0.60	0.50	0,75	0.10	1.0		770.70
6,624240	0.60	0.50	0,75	0.05	1.0		769.93

CUADRO DE PR

PR	NORTE	ESTE	COTA(m.)
12	6636204.80	321202.97	774.59
13	6636035.33	321217.90	772.42
14	6635623.71	321401.19	772.91
15	6635623.71	321308.87	770.37

CUADRO PR ESTACION

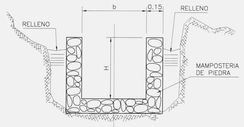
PR	NORTE	ESTE	COTA(m.)
18	6636224.83	321380.57	804.24
19	6636185.11	321399.60	787.99

DISPOSICION DE LAMINAS

SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	VO	COTA FONDO PROY.	C.F.P.
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

SECCION TIPO
S/E



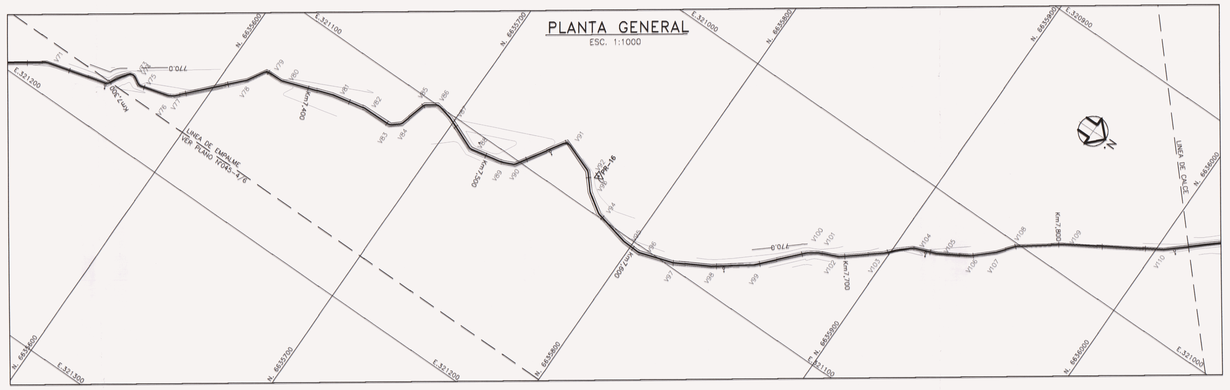
NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS
- PARA VER DETALLES ENTREGAS PREDIALES VER PLANO N°044-6/6

GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISIÓN NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo	Título Plano: CANAL ALTO PICHASCA PLANTA Y PERFIL LONGITUDINAL
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956
	Fecha: FEBRERO 2010	Lámina: 045-4/6

CANAL ALTO PICHASCA

PLANTA GENERAL
ESC. 1:1000



PERFIL LONGITUDINAL
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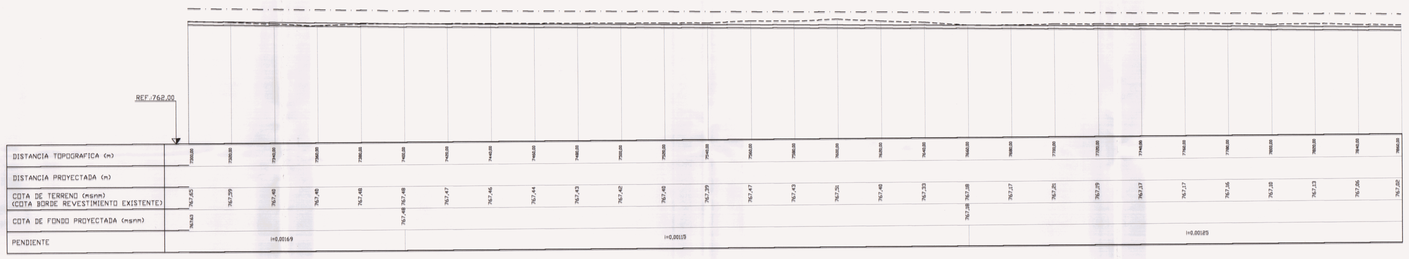
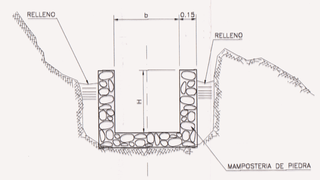
V.=1:100



CUADRO DE SECCIONES

TRAMO (Km)		SECCION b (m)	SECCION H (m)	OBS.
7.300	8.400	0.70	0.65	
8.400	9.392	0.70	0.65	

SECCION TIPO
S/E



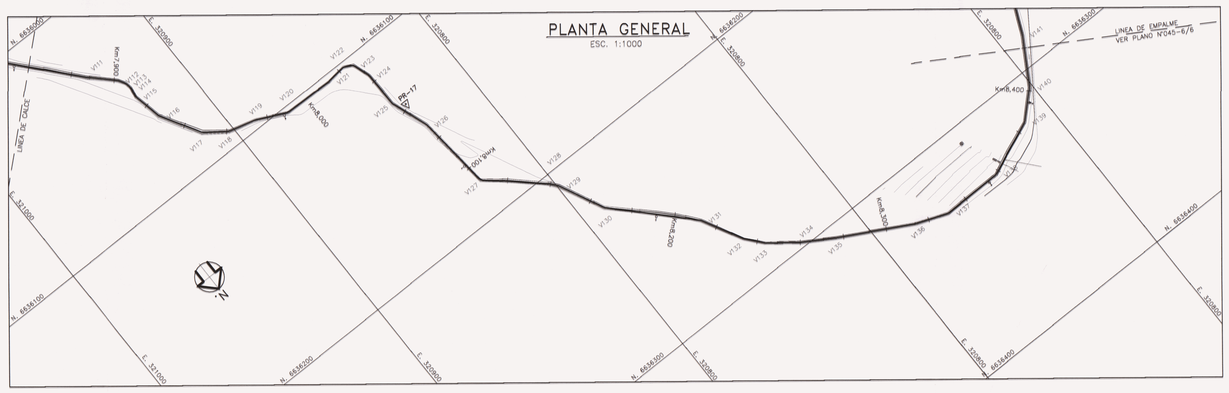
CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE N°	COORDENADAS ESTE (m)	COORDENADAS NORTE (m)	UBICACION VERTICE (m)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
72	321178.358	6635558.703	6988.21	-48.58	2.5	1.01	1.97	1302.8	1304.8
73	321168.878	6635564.717	6989.85	36.34	2.5	1.01	2.33	1314.2	1316.6
74	321168.662	6635568.850	7002.06	36.81	2.5	0.81	1.56	1316.8	1318.2
75	321171.313	6635571.276	7007.21	-50.98	2.5	1.08	2.00	1321.5	1323.5
76	321161.382	6635584.820	7021.28	-16.70	2.5	0.33	0.66	1336.1	1336.8
77	321165.830	6635587.421	7024.29	-17.79	2.5	0.35	0.70	1338.1	1338.8
78	321160.725	6635610.920	7058.70	-14.51	2.5	0.28	0.56	1373.6	1374.2
79	321153.870	6635618.037	7068.83	85.47	2.5	1.41	2.57	1382.6	1385.2
80	321131.873	6635624.153	7078.89	-20.77	2.5	0.41	0.82	1391.5	1392.3
81	321123.745	6635647.223	7101.41	8.16	2.5	0.16	0.32	1416.2	1416.5
82	321126.430	6635660.705	7117.24	12.16	2.5	0.24	0.48	1431.9	1432.4
83	321120.148	6635678.776	7131.31	-44.03	2.5	0.80	1.73	1445.3	1447.1
84	321114.560	6635680.928	7136.80	-14.88	2.5	0.75	1.45	1450.9	1452.3
85	321103.388	6635684.715	7150.51	43.81	2.5	0.86	1.71	1464.4	1466.1
86	321099.791	6635689.907	7156.83	92.84	2.5	2.08	3.70	1470.5	1472.5
87	321101.542	6635693.580	7164.71	-10.25	2.5	0.20	0.40	1478.3	1478.5
88	321108.061	6635713.522	7181.80	-37.10	2.5	0.75	1.48	1495.7	1497.2
89	321104.816	6635729.631	7198.36	-15.18	2.5	0.30	0.60	1511.9	1512.5
90	321120.311	6635774.455	7250.71	36.00	2.5	0.70	1.41	1564.5	1565.9
91	321079.731	6635748.600	7230.35	86.75	2.5	2.05	3.41	1542.8	1546.2
92	321085.397	6635794.053	7246.81	32.42	2.5	0.65	1.27	1560.0	1561.3
93	321092.754	6635721.378	7206.51	-17.40	2.5	0.34	0.68	1520.0	1520.7
94	321098.795	6635779.425	7287.38	-24.51	2.5	0.49	0.93	1600.9	1601.7
95	321102.543	6635766.281	7284.65	-11.49	2.5	0.23	0.45	1598.3	1598.7
96	321102.886	6635825.013	7293.36	-22.85	2.5	0.45	0.90	1606.4	1607.3
97	321097.772	6635820.464	7309.67	-12.37	2.5	0.24	0.49	1622.7	1623.2
98	321099.025	6635835.358	7327.46	-7.82	2.5	0.15	0.31	1640.1	1640.4
99	321077.300	6635851.762	7347.14	-12.44	2.5	0.25	0.49	1660.7	1661.2
100	321056.017	6635868.363	7371.94	-12.83	2.5	0.25	0.50	1685.4	1685.9
101	321055.730	6635872.813	7377.37	-14.50	2.5	0.28	0.57	1690.8	1691.3
102	321051.877	6635881.756	7390.71	-17.02	2.5	0.33	0.65	1703.9	1704.5
103	321038.694	6635897.786	7407.88	-4.50	2.5	0.13	0.26	1721.5	1721.8
104	321029.227	6635907.159	7421.18	-26.04	2.5	0.52	1.02	1734.5	1735.5
105	321024.853	6635917.800	7432.67	-8.82	2.5	0.19	0.38	1746.5	1746.8
106	321011.730	6635931.660	7448.78	-13.98	2.5	0.31	0.61	1762.8	1763.4
107	321008.760	6635940.256	7460.49	-4.25	2.5	0.18	0.36	1774.1	1774.5
108	321001.341	6635946.214	7470.02	15.48	2.5	0.31	0.61	1783.7	1784.3
109	320988.405	6635953.261	7491.38	6.12	2.5	0.12	0.24	1805.0	1805.3
110	320983.761	6635957.916	7498.04	-10.54	2.5	0.21	0.41	1811.7	1812.1
111	320978.363	6635971.887	7519.63	-4.87	2.5	0.10	0.19	1830.3	1830.5
112	320927.838	6635941.183	7597.36	14.88	2.5	0.29	0.58	1904.8	1905.4
113	320927.839	6635943.425	7585.20	24.43	2.5	0.48	0.95	1908.5	1909.4
114	320925.241	6635948.364	7593.29	-22.82	2.5	0.45	0.90	1916.6	1917.5
115	320923.109	6635953.417	7608.43	0.31	2.5	0.00	0.01	1931.7	1931.7
116	320923.156	6635966.978	7637.13	20.68	2.5	0.41	0.81	1930.3	1931.1
117	320918.777	6635963.458	7628.57	-29.46	2.5	0.59	1.17	1951.7	1952.8
118	320889.633	6635968.053	7684.02	12.43	2.5	0.24	0.48	1977.1	1978.0
119	320889.633	6635968.053	7684.02	12.43	2.5	0.24	0.48	1977.1	1978.0
120	320875.887	6635982.854	7679.50	-27.05	2.5	0.54	1.08	1992.7	1993.8
121	320852.205	6635983.405	7703.03	-8.65	2.5	0.17	0.34	2016.5	2016.8
122	320842.867	6635992.198	7712.48	37.80	2.5	0.77	1.49	2025.4	2026.9
123	320838.812	6635994.341	7717.20	50.24	2.5	1.04	1.97	2029.8	2031.8
124	320835.886	6635997.401	7722.00	18.08	2.5	0.36	0.72	2034.3	2035.0
125	320835.827	6635999.531	7742.82	-20.64	2.5	0.41	0.82	2055.0	2055.8
126	320829.307	6636147.145	7781.94	15.75	2.5	0.31	0.62	2074.9	2075.4
127	320825.859	6636182.624	7797.19	-47.45	2.5	0.98	1.86	2109.7	2111.6
128	320802.552	6636203.425	7838.43	0.31	2.5	0.00	0.01	2147.2	2147.2
129	320799.220	6636207.544	7833.73	14.48	2.5	0.29	0.57	2146.8	2147.4
130	320789.113	6636228.321	7856.63	-18.62	2.5	0.39	0.76	2169.3	2170.0
131	320758.018	6636260.777	7901.78	17.23	2.5	0.34	0.68	2214.9	2215.5
132	320747.838	6636279.770	7933.27	-13.17	2.5	0.26	0.52	2238.4	2237.0
133	320741.245	6636287.534	7933.50	-13.76	2.5	0.27	0.54	2246.7	2247.2
134	320728.211	6636307.536	7948.93	-6.65	2.5	0.13	0.26	2263.2	2263.5
135	320714.299	6636306.067	7966.25	-3.33	2.5	0.07	0.13	2279.6	2279.7
136	320681.206	6636324.057	8003.93	-8.79	2.5	0.17	0.35	2317.2	2317.5
137	320666.637	6636329.530	8018.48	-23.87	2.5	0.47	0.93	2332.4	2333.4
138	320638.130	6636329.180	8047.55	-24.42	2.5	0.48	0.96	2360.5	2361.4
139	320613.243	6636318.612	8073.06	-23.44	2.5	0.47	0.92	2387.9	2388.8
140	320601.581	6636307.452	8091.13	-17.04	2.5	0.34	0.67	2404.2	2404.8
141	320588.924	6636286.284	8115.80	-7.60	2.5	0.15	0.30	2428.0	2428.3

CUADRO DE PR

PR	NORTE	ESTE	COTA(m.)
16	6635769.44	321084.55	770.24
17	6636133.66	320830.84	768.8

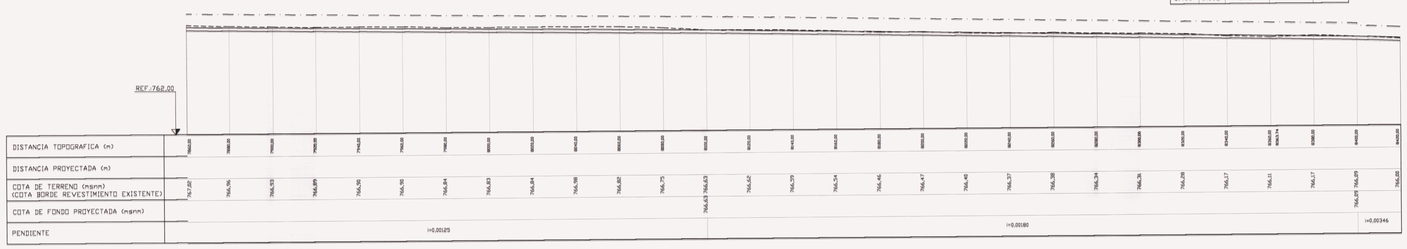
PLANTA GENERAL
ESC. 1:1000



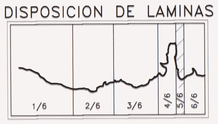
PERFIL LONGITUDINAL
ESC. H.=1:1000
V.=1:100

CUADRO DE SECCIONES

TRAMO (Km)		SECCION b (m)	SECCION H (m)	OBS.
7.300	8.400	0.70	0.65	
8.400	9.392	0.70	0.65	



DISPOSICION DE LAMINAS



SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS
- PARA VER DETALLES ENTREGAS PREDIALES VER PLANO N°045-6/6

GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISION NACIONAL DE RIEGO

CONSULTOR: GCF Ingenieros Ltda.

Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo

Escala: Indicadas

Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956

Título Plano: CANAL ALTO PICHASCA PLANTA Y PERFIL LONGITUDINAL

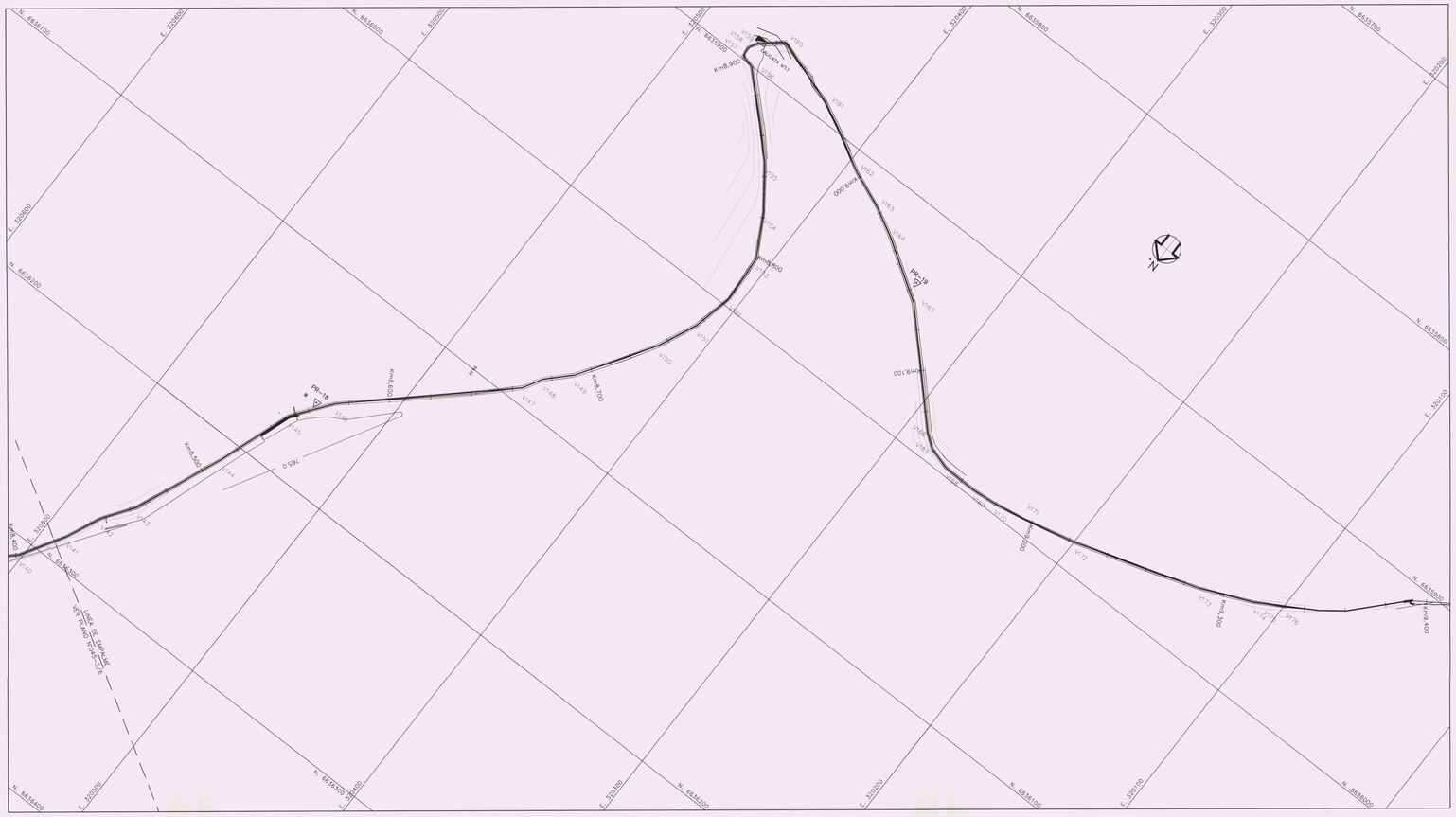
Fecha: FEBRERO 2010

Lámina: 045-5/6

CANAL ALTO PICHASCA

PLANTA GENERAL

ESC. 1:1000

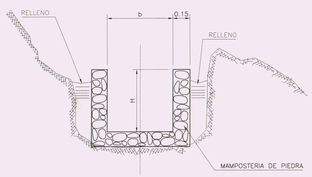


CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE	COORDENADAS		UBICACION					INICIO	FIN
N°	ESTE (m)	NORTE (m)	VERTICE (m)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	CURVA (m)	CURVA (m)
140	320601.591	66.363.07.452	8081.13	-17.04	2.5	0.34	0.67	2404.2	2404.8
141	320588.924	66.362.86.284	8115.80	-7.60	2.5	0.15	0.30	2429.0	2429.3
142	320581.235	66.362.89.061	8134.66	12.25	2.5	0.24	0.48	2447.8	2448.3
143	320570.611	66.362.63.938	8153.14	-13.81	2.5	0.27	0.55	2466.2	2466.8
144	320552.328	66.362.09.838	8200.78	-3.86	2.5	0.08	0.15	2514.1	2514.2
145	320529.682	66.361.71.408	8239.45	20.09	2.5	0.40	0.79	2552.8	2553.2
146	320505.243	66.361.54.499	8263.18	11.18	2.5	0.22	0.44	2576.1	2576.8
147	320456.404	66.360.92.632	8354.29	-18.55	2.5	0.36	0.73	2667.3	2668.0
148	320433.008	66.360.81.059	8386.31	16.73	2.5	0.33	0.66	2678.3	2679.0
149	320442.164	66.360.72.098	8380.23	-13.29	2.5	0.26	0.52	2693.0	2694.3
150	320418.469	66.360.55.235	8424.50	-9.74	2.5	0.19	0.38	2737.1	2738.1
151	320409.930	66.360.16.072	8445.52	-12.58	2.5	0.25	0.49	2758.6	2759.1
152	320403.340	66.359.96.483	8465.68	-17.53	2.5	0.35	0.69	2778.7	2779.4
153	320406.822	66.359.71.025	8489.09	-28.30	2.5	0.56	1.11	2801.9	2803.0
154	320417.981	66.359.52.589	8512.35	-8.77	2.5	0.17	0.34	2825.2	2825.5
155	320432.442	66.359.33.029	8536.70	-10.37	2.5	0.20	0.41	2849.8	2850.2
156	320448.429	66.359.00.015	8584.08	-36.49	2.5	0.74	1.43	2896.7	2898.1
157	320472.772	66.358.98.745	8580.50	83.47	2.5	1.92	3.28	2901.9	2905.2
158	320473.086	66.358.93.673	8585.63	37.75	2.5	0.76	1.48	2907.6	2909.1
159	320470.818	66.358.89.812	8600.11	20.14	2.5	0.40	0.79	2912.4	2913.2
160	320460.379	66.358.80.582	8614.04	68.75	2.5	1.43	2.82	2925.3	2927.9
161	320427.009	66.358.81.836	8649.25	10.36	2.5	0.20	0.41	2961.4	2961.9
162	320394.157	66.358.95.264	8686.44	-6.55	2.5	0.13	0.26	2998.7	2999.0
163	320374.201	66.359.16.538	8705.81	6.74	2.5	0.13	0.26	3018.1	3018.3
164	320362.162	66.359.34.038	8721.73	4.86	2.5	0.10	0.19	3034.0	3034.2
165	320333.541	66.359.42.330	8755.70	14.94	2.5	0.29	0.58	3067.8	3068.4
166	320289.154	66.359.88.343	8819.63	-10.67	2.5	0.21	0.42	3131.8	3132.2
167	320282.620	66.359.93.166	8827.75	-22.98	2.5	0.46	0.90	3139.7	3140.6
168	320271.725	66.359.98.243	8839.07	-15.90	2.5	0.31	0.62	3151.1	3151.8
169	320254.984	66.359.98.670	8855.84	-7.47	2.5	0.15	0.29	3168.1	3168.4
170	320242.401	66.359.95.512	8868.43	-4.94	2.5	0.10	0.19	3180.7	3180.9
171	320226.086	66.359.92.720	8885.01	-4.21	2.5	0.08	0.17	3197.3	3197.5
172	320198.615	66.359.86.366	8917.23	-4.71	2.5	0.09	0.19	3229.5	3229.7
173	320178.402	66.359.66.784	8976.50	-6.28	2.5	0.12	0.25	3288.8	3289.0
174	320113.104	66.359.56.843	9004.06	-9.26	2.5	0.18	0.32	3316.3	33.46
175	320108.068	66.359.53.208	9009.26	0.00	0	0.00	0.00	3321.6	3321.6
176	320099.194	66.359.47.543	9020.26	0.00	0	0.00	0.00	3332.6	3332.6

SECCION TIPO

S/E



CUADRO DE PR

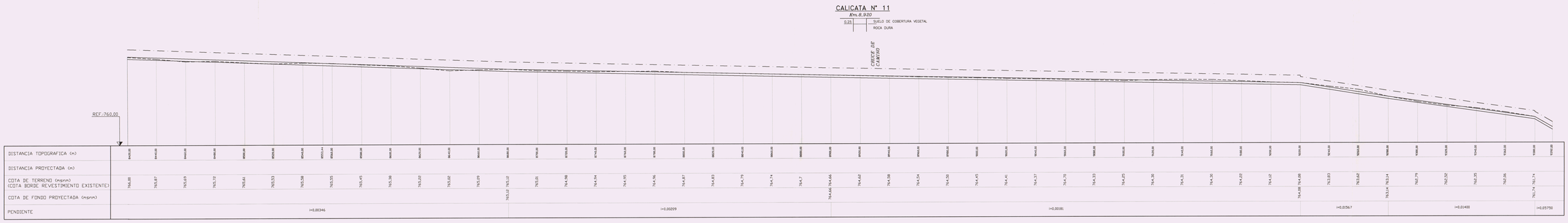
PR	NORTE	ESTE	COTA(m.)
18	6636159.88	320532.93	766.46
19	6635933.95	320338.29	766.83

CUADRO DE SECCIONES

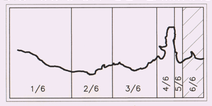
TRAMO (Km)		SECCIÓN b. (m)	SECCIÓN H. (m)	OBS.
8.400	9.392	0.70	0.65	

PERFIL LONGITUDINAL

ESC. H.=1:1000
V.=1:100



DISPOSICION DE LAMINAS



SIMBOLOGIA			
CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTA GENERAL:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS

GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISIÓN NACIONAL DE RIEGO

CONSULTOR
GCF Ingenieros Ltda.

Nombre Estudio
Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo

Título Plano
CANAL ALTO PICHASCA
PLANTA Y PERFIL LONGITUDINALES

Escala: Indicadas

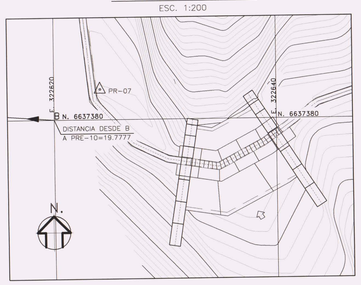
Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956

Fecha: FEBRERO 2010

Lámina: 045-6/6

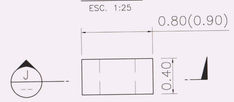
CRUCE DE QUEBRADA Km 3,03191

PLANTA GENERAL
ESC. 1:200

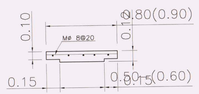


DETALLE DE LOSETA

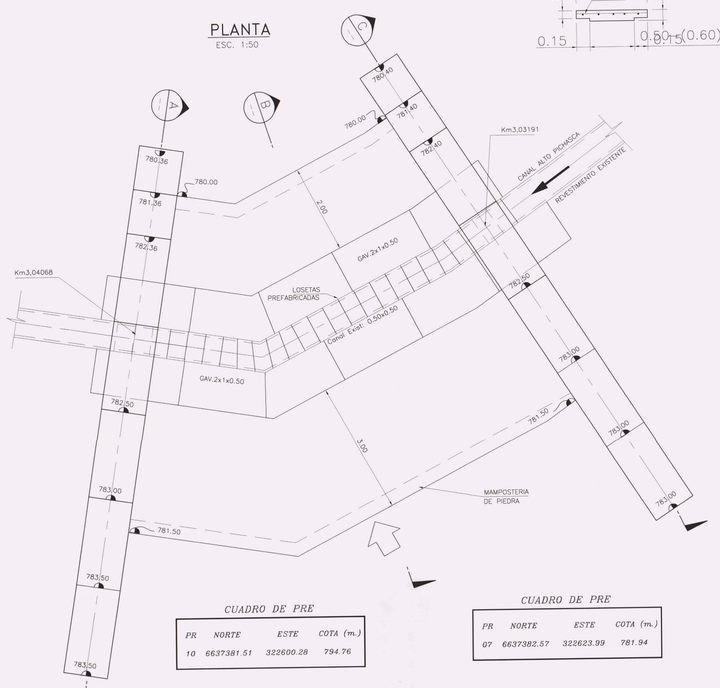
PLANTA
ESC. 1:25



SECCION J
ESC.1:25



PLANTA
ESC. 1:50



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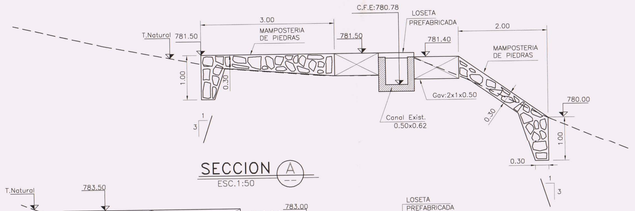
ESC.1:50



SECCION A
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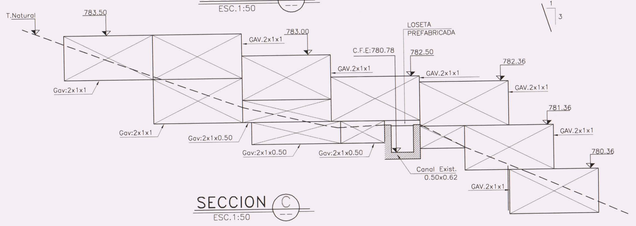
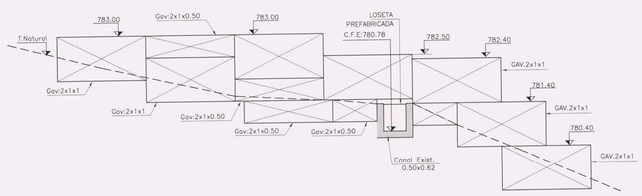
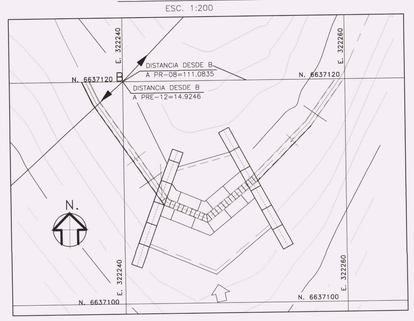


SECCION C
ESC.1:50



CANAL ALTO PICHASCA
CRUCE DE QUEBRADA Km3,66865

PLANTA GENERAL
ESC. 1:200



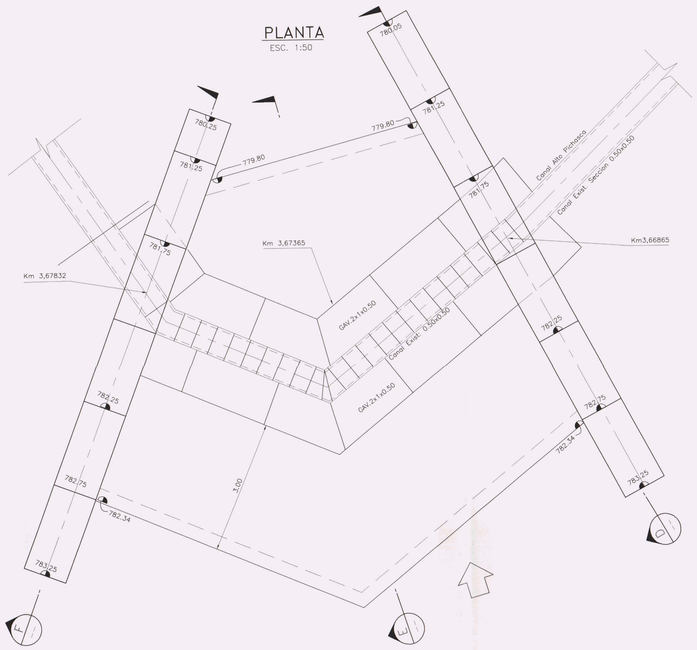
CUADRO DE PR

PR	NORTE	ESTE	COTA (m.)
08	6637200.10	322316.93	780.86

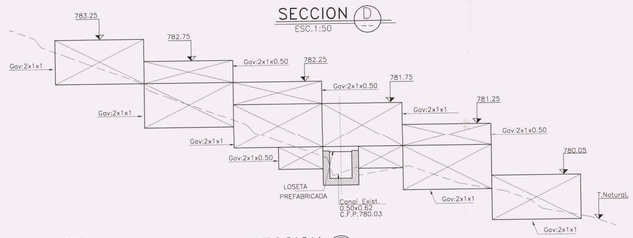
CUADRO DE PRE

PR	NORTE	ESTE	COTA (m.)
12	6637109.99	322228.93	804.24

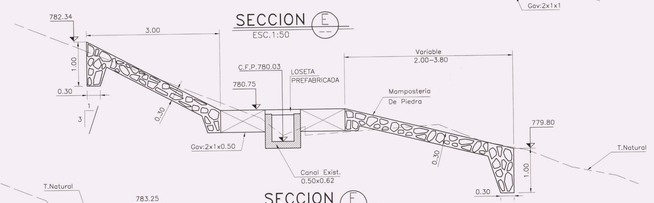
PLANTA
ESC. 1:50



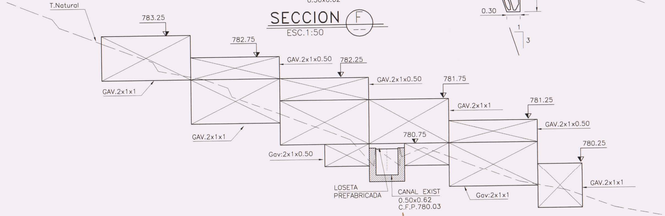
SECCION D
ESC.1:50



SECCION E
ESC.1:50

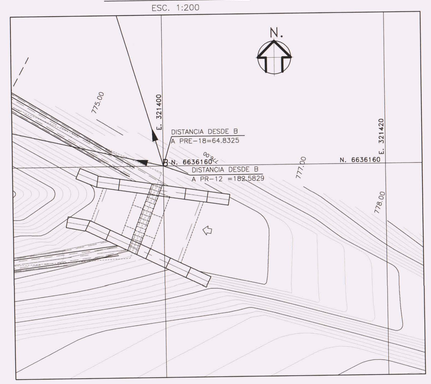


SECCION F
ESC.1:50



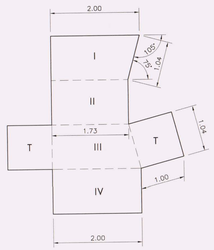
CRUCE DE QUEBRADA Km 5,77955

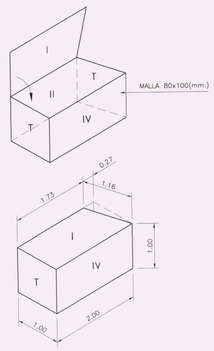
PLANTA GENERAL
ESC. 1:200



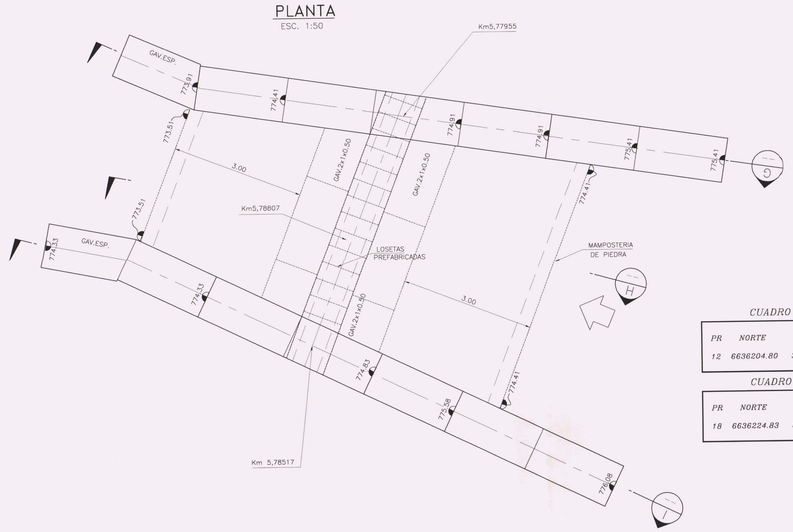
GAVION ESPECIAL
ESC. 1:50

GAVION DESPLEGADO





PLANTA
ESC. 1:50



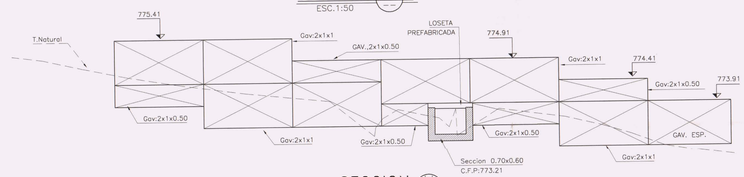
CUADRO DE PR

PR	NORTE	ESTE	COTA (m.)
12	6636204.80	321202.97	774.59

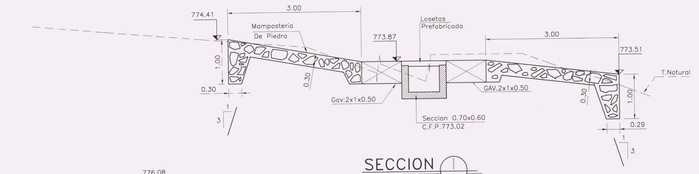
CUADRO DE PRE

PR	NORTE	ESTE	COTA (m.)
18	6636224.83	321380.57	804.24

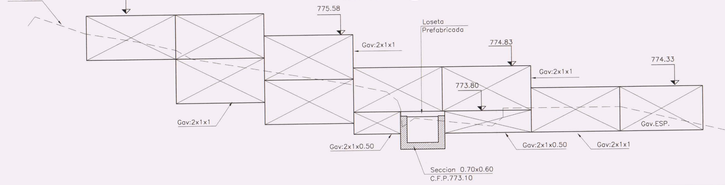
SECCION G
ESC.1:50



SECCION H
ESC.1:50



SECCION I
ESC.1:50



GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISION NACIONAL DE RIEGO

CONSULTOR: GCF Ingenieros Ltda.

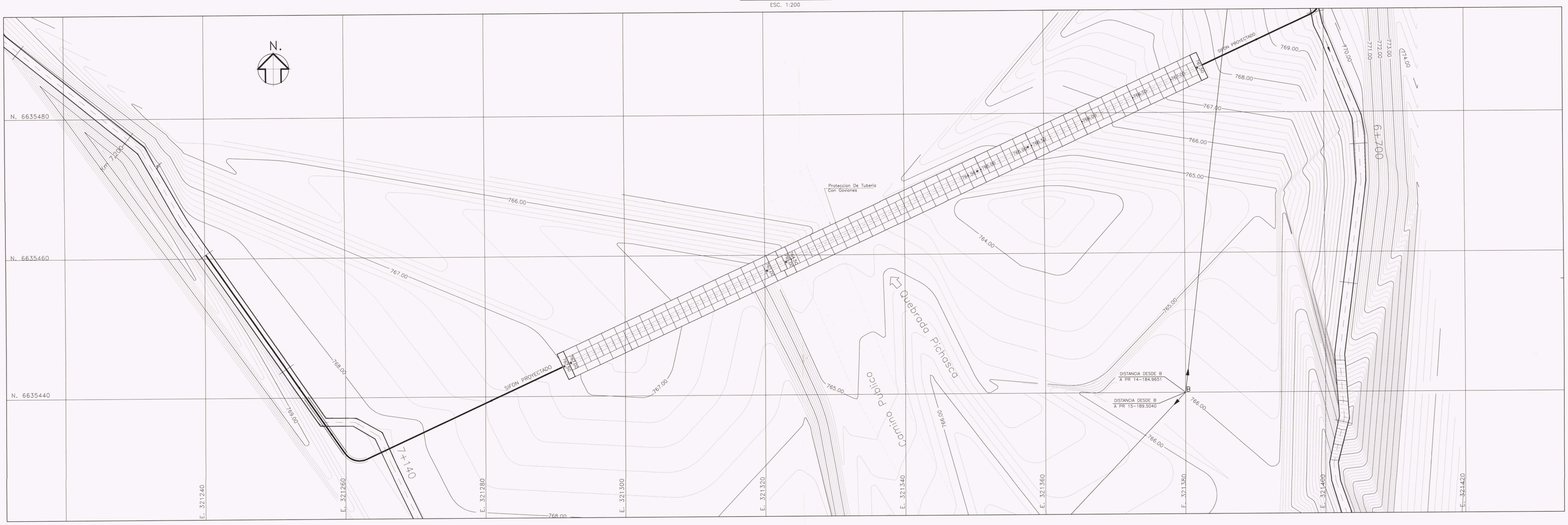
Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo

Título Plano: CANAL ALTO PICHASCA CRUCE DE QUEBRADAS PLANTAS Y DETALLES

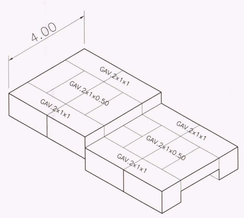
Escala	Proyección Cartográfica	Fecha	Lámina:
Indicadas	UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	FEBRERO 2010	046-1/3

CANAL ALTO PICHASCA
CRUCE DE QUEBRADA PICHASCA

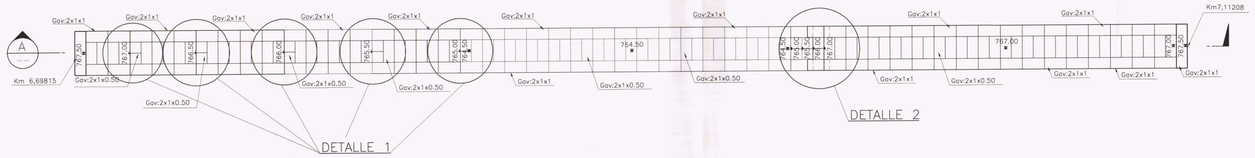
PLANTA GENERAL
ESC. 1:200



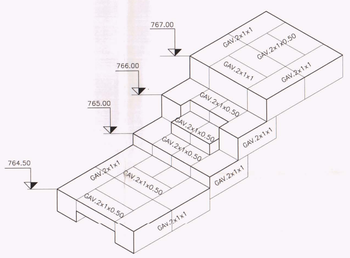
ISOMETRICA
DETALLE (1)
ESC.1:100



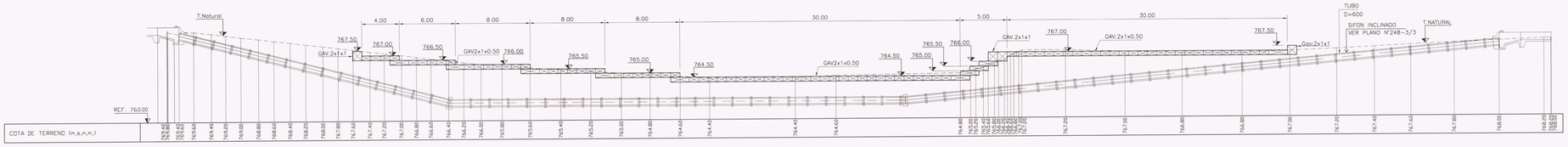
PLANTA
ESC. 1:200



ISOMETRICA
DETALLE (2)
ESC.1:100



SECCION (A)
ESC.1:200



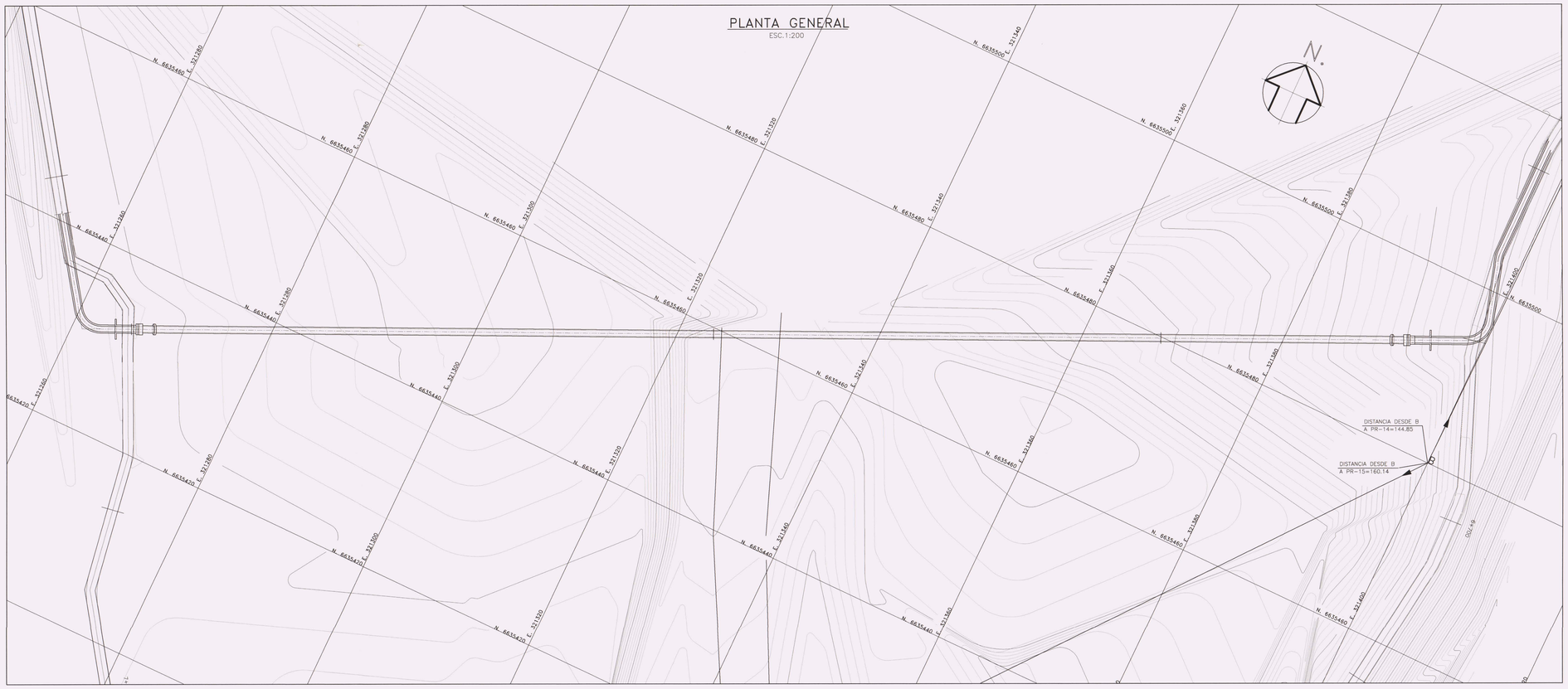
CUADRO DE PR

PR	NORTE	ESTE	COTA (m.)
14	6635623.71	321401.19	772.91
15	6635623.71	321908.87	770.37

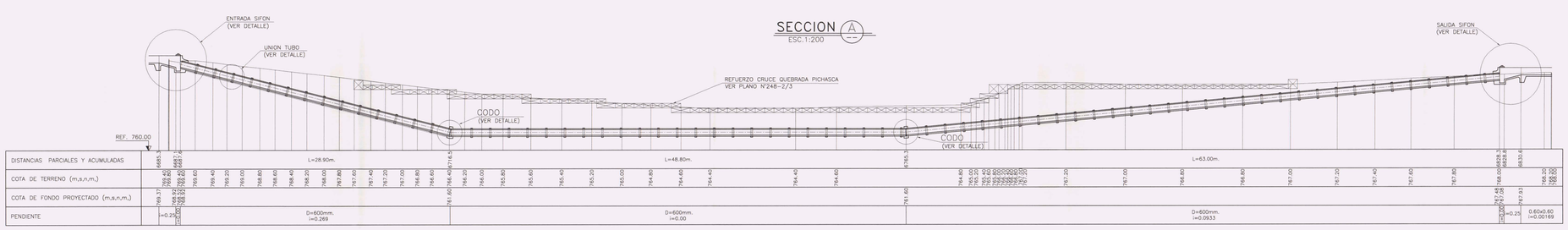
GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISIÓN NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo	Título Plano: CANAL ALTO PICHASCA CRUCE DE QUEBRADAS PLANTAS Y DETALLES	
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010
			Lámina: 046-2/3

CANAL ALTO PICHASCA
SIFON CRUCE QUEBRADA Km. 6.686

PLANTA GENERAL
ESC.1:200



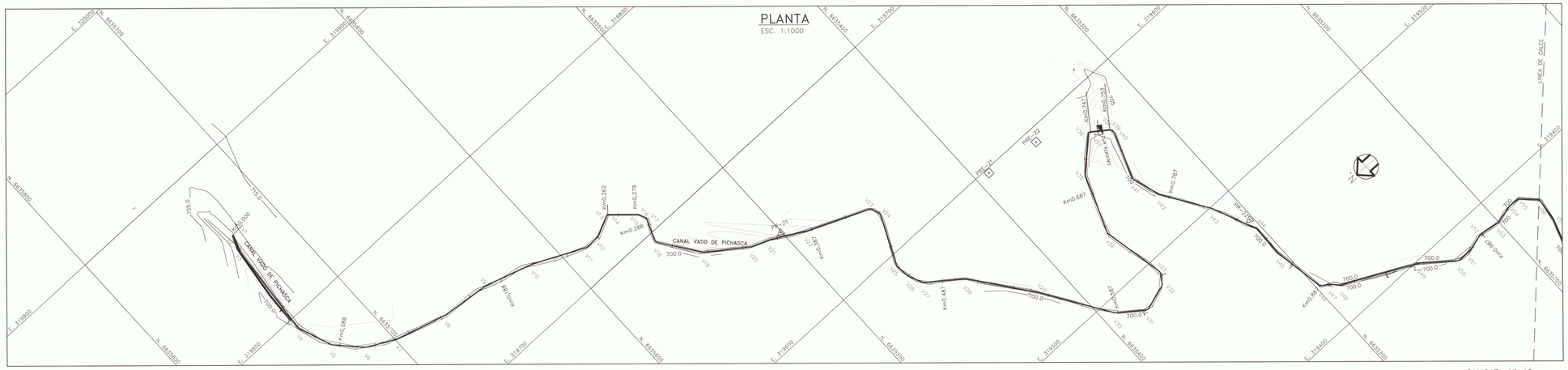
SECCION A
ESC.1:200



| | | |

CANAL VADO DE PICHASCA

PLANTA
ESC. 1:1000



CUADRO PR

PR	NORTE	ESTE	COTA(m.)
20	6635790.30	319970.96	733.43
21	6635500.56	319651.39	703.00
22	6635302.01	319480.17	702.05
23	6635054.16	319127.78	700.76
24	6634803.64	318932.13	701.54

CUADRO PR ESTACION

PRE	NORTE	ESTE	COTA(m.)
20	6635685.47	319984.84	742.68
21	6635392.11	319587.57	718.20
22	6635361.04	319592.69	718.81
23	6634794.30	318921.65	714.51
24	6634797.04	318916.31	710.20

CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE	COORDENADAS		UBICACION					INICIO	FIN
N°	ESTE	NORTE	VERTICE	ANGULO	RADIO	TANGENTE	DESARROLLO	CURVA	CURVA
	(m)	(m)	(m)	(s)	(m)	(m)	(m)	(m)	(m)
1	319856.4774	6635727.7943	1832.76						1832.8
2	319855.1321	6635727.8266	1833.71	19.40	0	0.00	0.00	1833.7	1833.7
3	319844.4575	6635731.0252	1843.33	-16.06	2.5	0.32	0.63	1843.0	1843.6
4	319763.7050	6635735.6095	1898.28	-28.73	2.5	0.57	1.13	1897.7	1898.8
5	319774.4799	6635728.2512	1916.61	-24.79	2.5	0.49	0.97	1916.1	1917.1
6	319760.3397	6635715.0157	1938.24	-21.58	2.5	0.43	0.85	1937.8	1938.6
7	319751.8700	6635698.6551	1954.67	-12.74	2.5	0.25	0.50	1954.4	1954.9
8	319743.5858	6635669.5788	1984.90	-10.90	2.5	0.21	0.43	1984.6	1985.1
9	319740.7536	6635643.0418	2011.59	12.63	2.5	0.25	0.50	2011.3	2011.8
10	319731.8631	6635614.7732	2041.22	8.83	2.5	0.17	0.35	2041.0	2041.3
11	319718.1444	6635588.1009	2072.56	-31.34	2.5	0.63	1.23	2072.3	2073.5
12	319718.6926	6635576.9404	2082.13	-25.70	2.5	0.51	1.01	2081.5	2082.6
13	319724.0011	6635566.0234	2094.27	43.13	0	0.00	0.00	2094.3	2094.3
14	319733.8370	6635565.3093	2095.01	32.02	0	0.00	0.00	2094.9	2094.9
15	319712.5603	6635552.6004	2111.66	3.07	0	0.00	0.00	2111.8	2111.8
16	319711.8011	6635551.9783	2112.90	25.78	2.5	0.60	1.17	2112.2	2113.4
17	319707.8410	6635550.6034	2117.58	43.43	2.5	0.93	1.78	2116.7	2117.8
18	319694.7525	6635555.9347	2131.32	-63.98	2.5	1.37	2.51	2129.8	2132.3
19	319672.3673	6635540.0175	2158.79	-21.18	2.5	0.42	0.85	2157.9	2158.8
20	319656.5148	6635517.9561	2185.92	13.86	2.5	0.53	1.02	2185.2	2186.8
21	319652.6221	6635507.8188	2196.80	8.82	2.5	0.17	0.35	2196.2	2196.5
22	319642.3924	6635489.5338	2217.75	-6.92	2.5	0.14	0.27	2217.2	2217.5
23	319627.4802	6635454.3973	2255.92	51.90	2.5	1.08	2.04	2254.4	2256.4
24	319621.8808	6635432.3265	2281.89	30.21	2.5	1.04	1.97	2280.3	2282.3
25	319594.0774	6635465.2283	2292.54	-34.36	2.5	0.69	1.35	2291.2	2292.5
26	319585.7388	6635444.3462	2300.84	-18.08	2.5	0.38	0.75	2299.9	2300.6
27	319577.1294	6635460.6452	2310.30	-33.09	2.5	0.66	1.30	2308.9	2310.2
28	319563.0465	6635441.9278	2333.74	17.59	2.5	0.35	0.69	2332.7	2333.3
29	319529.5544	6635416.4499	2375.81	4.99	2.5	0.10	0.20	2375.0	2375.2
30	319492.4971	6635392.6119	2419.87	-22.62	2.5	0.45	0.89	2418.7	2419.6
31	319481.4638	6635377.9104	2438.25	-60.12	2.5	1.28	2.36	2436.2	2438.6
32	319466.5142	6635360.5284	2454.56	-43.11	2.5	0.88	1.69	2453.2	2454.9
33	319492.0884	6635358.5808	2461.42	348.69	2.5	1.04	13.73	2459.4	2473.1
34	319528.1850	6635365.3264	2498.23	-363.74	2.5	0.73	14.28	2497.5	2511.8
35	319560.5690	6635353.1503	2533.00	28.24	2.5	0.56	1.11	2532.5	2533.6
36	319576.7982	6635335.8016	2556.68	78.73	0	0.00	0.00	2580.1	2580.1
37	319576.2135	6635334.6965	2558.02	11.41	0	0.00	0.00	2581.5	2581.5
38	319569.8365	6635325.9419	2568.85	1.71	0	0.00	0.00	2592.3	2592.3
39	319569.2679	6635325.2202	2569.78	59.45	0	0.00	0.00	2593.2	2593.2
40	319566.9271	6635325.1257	2572.12	23.91	2	0.43	0.81	2595.1	2596.0
41	319541.1727	6635334.5318	2599.89	-41.57	2	0.68	1.32	2599.2	2600.5
42	319524.7399	6635329.9418	2616.86	-17.73	2	0.28	0.56	2616.6	2617.2
43	319499.0426	6635313.3463	2647.45	10.80	2	0.17	0.34	2647.3	2647.6
44	319473.4142	6635302.4024	2675.32	27.47	2	0.44	0.86	2674.9	2675.7
45	319455.9814	6635282.8508	2692.89	-12.49	2	0.20	0.39	2692.7	2693.1
46	319426.4206	6635297.8834	2722.74	-53.78	2	0.90	1.69	2721.9	2723.6
47	319403.4580	6635293.1328	2728.34	13.46	2	0.24	0.49	2728.1	2728.6
48	319418.9838	6635288.7912	2734.57	-21.06	2	0.33	0.66	2734.2	2734.9
49	319388.4346	6635248.3074	2779.97	12.98	2	0.20	0.41	2779.8	2780.2
50	319384.5134	6635230.8674	2802.29	-43.32	2	0.71	1.36	2801.6	2802.9
51	319384.5693	6635222.7162	2810.44	-15.79	2	0.25	0.50	2810.2	2810.7
52	319387.2342	6635212.4094	2821.09	25.57	2	0.41	0.80	2820.7	2821.5
53	319385.4525	6635200.2645	2833.37	-24.32	2	0.38	0.76	2833.0	2833.7
54	319388.0274	6635189.8244	2844.12	17.72	2	0.28	0.56	2843.8	2844.4
55	319387.7848	6635182.2955	2850.68	46.97	2	0.72	1.42	2850.0	2851.4
56	319379.3802	6635174.6940	2862.68	50.68	0	0.00	0.00	2862.7	2862.7
57	319365.3401	6635176.3414	2876.25	12.47	2.0	0.20	0.39	2876.1	2876.4
58	319347.8895	6635182.7055	2895.34	-23.65	2.0	0.38	0.74	2895.0	2895.7
59	319315.1453	6635181.5251	2924.10	-21.69	2.0	0.34	0.68	2923.8	2924.4
60	319296.4619	6635172.4412	2948.57	-18.67	2.0	0.30	0.59	2948.3	2948.8
61	319284.2881	6635162.6853	2964.14	-10.52	2.0	0.17	0.33	2964.0	2964.3
62	319273.0983	6635150.1815	2980.91	-14.82	2.0	0.23	0.47	2980.7	2981.1
63	319258.5217	6635123.3859	3011.42	50.57	2.0	0.84	1.59	3010.6	3012.1
64	319230.7218	6635115.4438	3040.34	-18.71	2.0	0.30	0.59	3039.9	3040.5
65	319198.141	6635080.479	3077.19	2.78	2.0	0.04	0.09	3077.0	3077.1
66	319180.846	6635072.758	3122.23	11.65	2.0	0.18	0.37	3121.9	3122.3
67	319125.226	6635061.385	3155.84	-26.68	2.0	0.43	0.84	3155.3	3156.1
68	319112.815	6635045.714	3178.45	-44.54	2.0	0.73	1.40	3177.8	3179.0
69	319110.030	6635018.863	3205.45	-3.38	2.0	0.06	0.29	3205.1	3205.4
70	319110.828	6634999.704	3224.53	14.87	2.0	0.23	0.47	3224.3	3224.7
71	319110.724	6634999.113	3225.23	1.00	0	0.00	0.00	3225.0	3225.0
72	319109.053	6634991.208	3233.01	-12.14	0	0.00	0.00	3233.1	3233.1
73	319108.759	6634974.411	3250.11	24.78	2.5	0.49	0.97	3249.4	3250.4
74	319099.519	6634953.892	3272.45	-26.13	2.5	0.53	1.05	3271.7	3272.8
75	319100.037	6634944.681	3281.46	44.29	2.5	0.91	1.74	3280.1	3282.1
76	319098.415	6634942.886	3284.03	30.83	0	0.00	0.00	3283.7	3283.7
77	319085.948	6634937.558	3297.59	50.14	0	0.00	0.00	3297.3	3297.3
78	319082.982	6634938.756	3300.79	34.21	2.5	0.69	1.34	3299.8	3301.1
79	319059.004	6634970.133	3340.44	-10.09	2.5	0.20	0.40	3339.9	3340.3
80	319040.142	6634988.362	3369.53	-35.71	2.5	0.72	1.40	3368.5	3369.9
81	319028.798	6634990.684	3378.11	-49.59	2.5	1.03	1.85	3376.7	3378.7
82	319010.592	6634959.302	3435.63	-18.92	2.5	0.37	0.74	3434.8	3435.5
83	318964.806	6634940.428	3460.24	-25.52	2.5	0.51	1.00	3459.3	3460.3
84	318961.272	6634928.823	3472.37	-36.20	2.5	0.73	1.42	3471.1	3472.6
85	318967.686	6634901.816	3496.16	10.98	2.5	0.22	0.43	3495.8	3496.2
86	318972.542	6634857.762	3544.55	14.32	2.5	0.28	0.56	3543.7	3544.3
87	318969.281	6634831.537	3570.98	10.58	2.5	0.21	0.42	3570.2	3570.7
88	318956.385	6634788.477	3615.83	26.14	2.5	0.53	1.02	3614.9	3615.9
89	318952.814	6634784.242	3621.47	51.14	0	0.00	0.00	3620.8	3620.8
90	318941.883	6634784.197	3632.40	51.35	0	0.00	0.00	3631.8	3631.8
91	318938.894	6634786.255	3635.26	34.99	0	0.00	0.00	3634.7	3634.7
92	318931.291	6634824.571	3674.92	-29.13	0	0.00	0.00	3674.4	3674.4
93	318901.109	6634851.743	3722.07	-13.76	0	0.00	0.00	3721.5	3721.5
94	318897.407	6634880.279	3727.70	-32.29	0	0.00	0.00	3727.1	3727.1
95	318895.478	6634885.614	3729.05	-23.90	0	0.00	0.00	3728.1	3728.1
96	318875.607	6634860.865	3750.08	-27.93	0	0.00	0.00	3749.5	3749.5
97	318870.862	6634857.081	3756.15	-28.32	2.5	0.51	1.11	3755.0	3756.2
98	318862.920	6634840.749	3774.31	-4.23	2.5	0.08	0.17	3773.7	3773.8
99	318854.578	6634821.212	3795.40	26.05	2.5	0.52	1.02	3794.3	3795.3
100	318842.735	6634809.209	3812.55	-19.87	2.5	0.39	0.78	3811.6	3812.4
101	318826.240	6634777.766	3848.06	-4.78	2.5	0.09	0.19	3847.4	3847.6

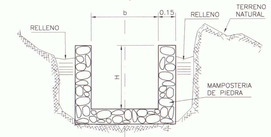
CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE	COORDENADAS		UBICACION					INICIO	FIN
N°	ESTE	NORTE	VERTICE	ANGULO	RADIO	TANGENTE	DESARROLLO	CURVA	CURVA
	(m)	(m)	(m)	(s)	(m)	(m)	(m)	(m)	(m)
56	319375.390	6635174.694	2862.68					2862.7	2862.7
57	319365.340	6635176.314	2876.25	12.47	2.0	0.20	0.39	2876.1	2876.4
58	319347.895	6635182.705	2895.34	-23.65	2.0	0.38	0.74	2895.0	2895.7
59	319315.145	6635181.525	2924.10	-21.69	2.0	0.34	0.68	2923.8	2924.4
60	319296.419	6635172.412	2948.57	-18.67	2.0	0.30	0.59	2948.3	2948.8
61	319284.288	6635162.685	2964.14	-10.52	2.0	0.17	0.33	2964.0	2964.3
62	319273.098	6635150.185	2980.91	-14.82	2.0	0.23	0.47	2980.7	2981.1
63	319258.521	6635123.389	3011.42	50.57	2.0	0.84	1.59	3010.6	3012.1
64	319230.718	6635115.438	3040.34	-18.71	2.0	0.30	0.59	3039.9	3040.5
65	319198.141	6635080.479	3077.19	2.78	2.0	0.04	0.09	3077.0	3077.1
66	319180.846	6635072.758	3122.23	11.65	2.0	0.18	0.37	3121.9	3122.3
67	319125.226	6635061.385	3155.84	-26.68	2.0	0.43	0.84	3155.3	3156.1
68	319112.815	6635045.714	3178.45	-44.54	2.0	0.73	1.40	3177.8	3179.0
69	319110.030	6635018.863	3205.45	-3.38	2.0	0.06	0.29	3205.1	3205.4
70	319110.828	6634999.704	3224.53	14.87	2.0	0.23	0.47	3224.3	3224.7
71	319110.724	6634999.113	3225.23	1.00	0	0.00	0.00	3225.0	3225.0
72	319109.053	6634991.208	3233.01	-12.14	0	0.00	0.00	3233.1	3233.1
73	319108.759	6634974.411	3250.11	24.78	2.5	0.49	0.97	3249.4	3250.4
74	319099.519	6634953.892	3272.45	-26.13	2.5	0.53	1.05	3271.7	3272.8
75	319100.037	6634944.681	3281.46	44.29	2.5	0.91	1.74	3280.1	3282.1
76	319098.415	6634942.886	3284.03	30.83	0	0.00	0.00	3283.7	3283.7
77	319085.948	6634937.558	3297.59	50.14	0	0.00	0.00	3297.3	3297.3
78	319082.982	6634938.756	3300.79	34.21	2.5	0.69	1.34	3299.8	3301.1
79	319059.004	6634970.133	3340.44	-10.09	2.5	0.20	0.40	3339.9	3340.3
80	319040.142	6634988.362	3369.53	-35.71	2.5	0.72	1.40	3368.5	3369.9
81	319028.798	6634990.684	3378.11	-49.59	2.5	1.03	1.85	3376.7	3378.7
82	319010.592	6634959.302	3435.63	-18.92	2.5	0.37	0.74	3434.8	3435.5
83	318964.806	6634940.428	3460.24	-25.52	2.5	0.51	1.00	3459.3	3460.3
84	318961.272	6634928.823	3472.37	-36.20	2.5	0.73	1.42	3471.1	3472.6
85	318967.686	6634901.816	3496.16	10.98	2.5	0.22	0.43	3495.8	3496.2
86	318972.542	6634857.762	3544.55	14.32	2.5	0.28	0.56	3543.7	3544.3
87	318969.281	6634831.537	3570.98	10.58	2.5	0.21	0.42	3570.2	3570.7
88	318956.385	6634788.477	3615.83	26.14	2.5	0.53	1.02	3614.9	3615.9
89	318952.814	6634784.242	3621.47	51.14	0	0.00	0.00	3620.8	3620.8
90	318941.883	6634784.197	3632.40	51.35	0	0.00	0.00	3631.8	3631.8
91	318938.894	6634786.255	3635.26	34.99	0	0.00	0.00	3634.7	3634.7
92	318931.291	6634824.571	3674.92	-29.13	0	0.00	0.00	3674.4	3674.4
93	318901.109	6634851.743	3722.07	-13.76	0	0.00	0.00	3721.5	3721.5
94	318897.407	6634880.279	3727.70	-32.29	0	0.00	0.00	3727.1	3727.1
95	318895.478	6634885.614	3729.05	-23.90	0	0.00	0.00	3728.1	3728.1
96	318875.607	6634860.865	3750.08	-27.93	0	0.00	0.00	3749.5	3749.5
97	318870.862	6634857.081	3756.15	-28.32	2.5	0.51	1.11	3755.0	3756.2
98	318862.920	6634840.749	3774.31	-4.23	2.5	0.08	0.17	3773.7	3773.8
99	318854.578	6634821.212	3795.40	26.05	2.5	0.52	1.02	3794.3	3795.3
100	318842.735	6634809.209	3812.55	-19.87	2.5	0.39	0.78	3811.6	3812.4
101	318826.240	6634777.766	3848.06	-4.78	2.5	0.09	0.19	3847.4	3847.6

CUADRO DE SECCIONES

TRAMO (Km)		SECCION b (m)	SECCION H (m)	OBS.
0.000	0.253	0.5000	0.50	
0.253	0.618	D=800	D=800	Tuberia existente
0.618	0.715	0.6000	0.60	
0.715	0.980	D=800	D=800	Tuberia existente
0.980	1.382	0.6500	0.65	

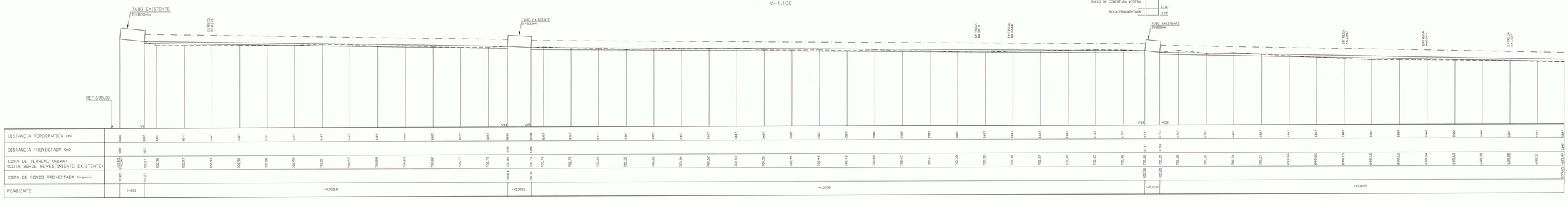
SECCION TIPO



CUADRO DE ENTREGAS PREDIALES CANAL VADO DE PICHASCA

Km.	DIMENSIONES(m) CANAL (m.) b	CANAL (m.) H	DIAMETRO ENTREGA (mm.)	GRADA (m.) a	GRADA (m.) i	COTAS FONDO EXIST.	COTAS FONDO PROY.
0.607	D=800	D=800	75	0.15	0.50		700.93
0.619	0.60	0.60	75	0.20	0.69		700.48
0.644	060	0.60	75	0.20	0.69		700.46
0.887	D=800	D=800	75	0.10	0.69		700.03
0.944	D=800	D=800	75	0.10	0.69		699.91
1.007	0.65	0.65	75	0.10	0.69		699.78
1.101	0.65	0.65	75	0.15	0.69		699.62
1.162	0.65	0.65	75	0.15	0.69		699.55
1.190	0.65	0.65	75	0.15	0.69		699.52
1.220	0.65	0.65	75	0.15	0.69		699.48
1.364	0.65	0.65	75	0.15	0.69		699.32
1.430	D=800	D=800	75	0.15	0.60		699.25
1.549	D=800	D=800	75	0.15	0.60		699.12
1.565	D=800	D=800	75	0.15	0.60		699.10
1.611	D=800	D=800	75	0.15	0.60		699.05
1.638	D=800	D=800	75	015	0.60		699.02
1.749	0.50	0.55	75	0.25	0.45		698.89
1.908	0.50	0.55	75	0.10	0.60		698.64

PERFIL LONGITUDINAL
ESC. H=1:1000
V=1:100

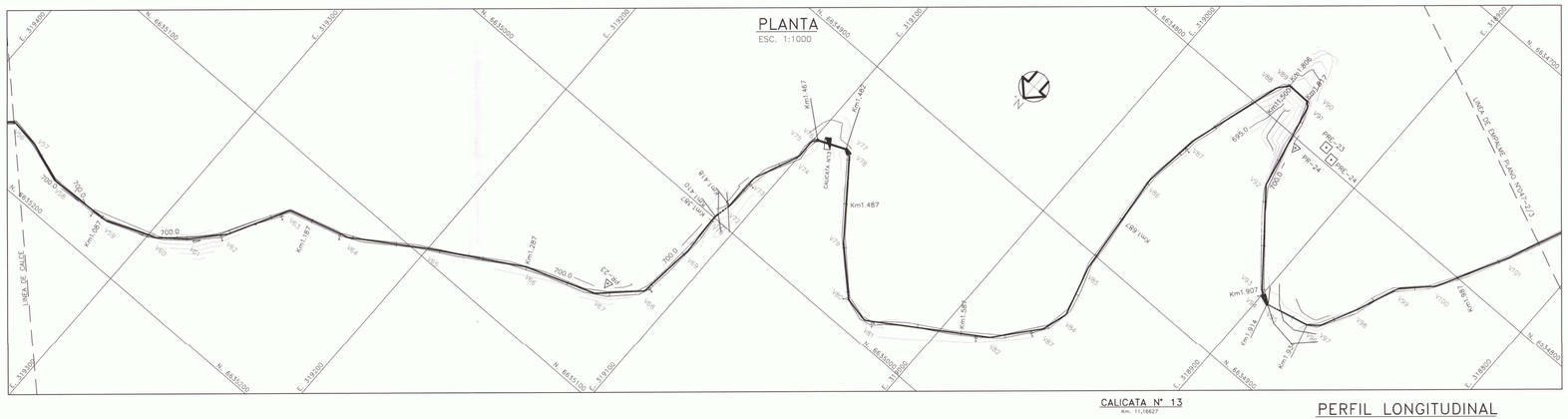


CALICATA N° 12
Km. 10.44091

CUADRO DE SECCIONES

TRAMO (Km)		SECCION b (m)	SECCION H (m)	OBS.
0.980	1.382	0.6500	0.65	
1.382	1.722	D=800	D=800	Tuberia existente
1.722	1.779	0.5000	0.55	
1.779	1.790	D=800	D=800	Tuberia existente
1.790	1.886	0.5000	0.55	
1.886	2.020	D=800	D=800	Tuberia existente
2.020	2.260	0.5000	0.55	

PLANTA
ESC. 1:1000



CALICATA N° 13
Km. 11,16627

PERFIL LONGITUDINAL
ESC. H=1:1000
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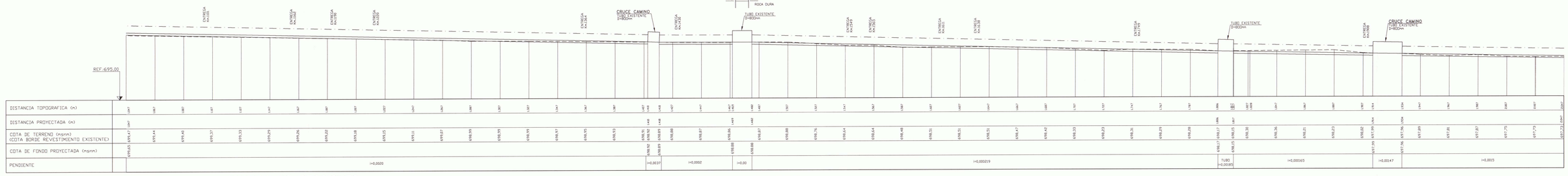
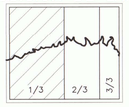


DISPOSICION DE LAMINAS



SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS
- PARA VER DETALLES ENTREGAS PREDIALES VER PLANO N°047-3/3

GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISIÓN NACIONAL DE RIEGO

Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo

Titulo Plano: CANAL VADO DE PICHASCA PLANTA Y PERFIL LONGITUDINAL

CONSULTOR: GCF Ingenieros Ltda.

Escala: Indicadas

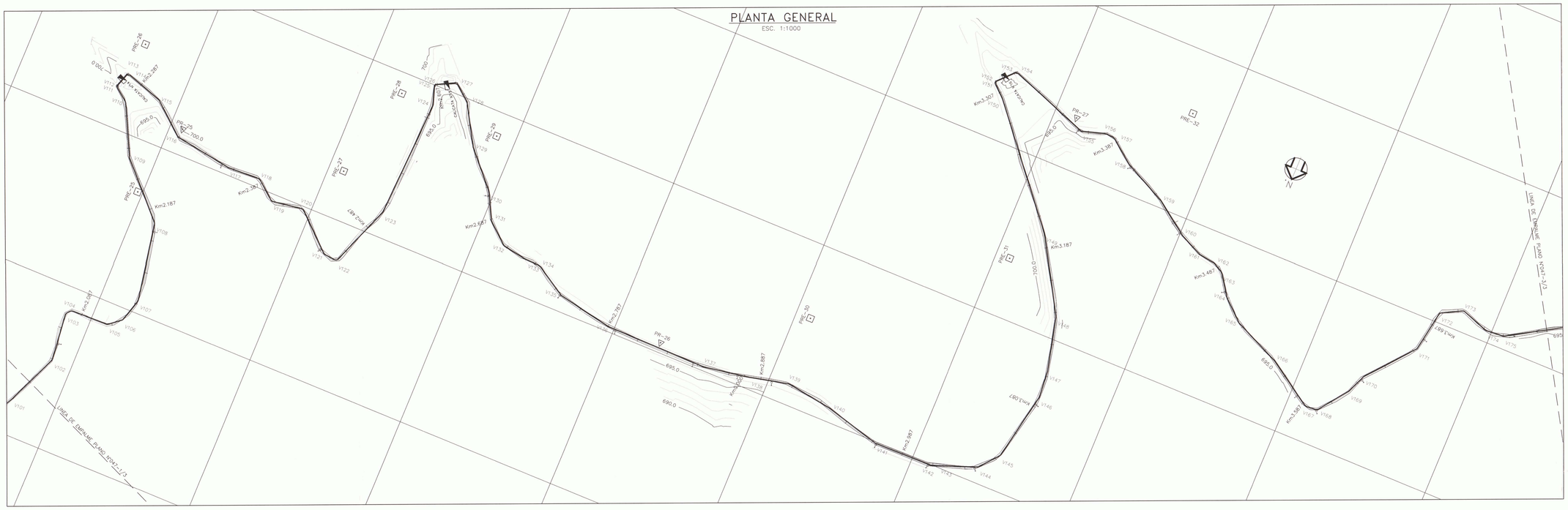
Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956

Fecha: FEBRERO 2010

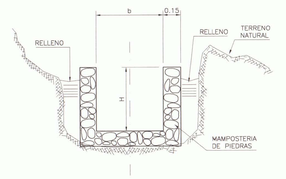
Lámina: 047-1/3

CANAL VADO DE PICHASCA

PLANTA GENERAL
ESC. 1:1000



SECCION TIPO
S/E



CUADRO DE ENTREGAS PREDIALES CANAL VADO DE PICHASCA

Km.	DIMENSIONES(m)						COTAS FONDO	
	CANAL (m.)		DIAMETRO ENTREGA (mm.)	GRADA (m.)				
	B	H		a	l		EXIST.	PROY.
2.076	0.50	0.55	75	0.10	0.60			698.23
2.191	0.50	0.55	75	0.10	0.60			698.08
2.378	0.50	0.55	75	0.15	0.60			697.77
2.486	0.50	0.55	75	0.15	0.60			697.64
2.482	0.50	0.55	75	0.15	0.60			697.67
2.681	0.50	0.55	75	0.10	0.60			697.17
2.811	0.50	0.55	75	0.10	0.60			697.00
2.863	0.50	0.55	75	0.10	0.60			696.92
2.891	0.50	0.55	75	0.10	0.60			696.81
2.912	0.50	0.55	75	0.15	0.60			696.75
2.989	0.50	0.55	75	0.15	0.60			696.70
3.023	0.50	0.55	75	0.15	0.60			696.61
3.052	0.50	0.55	75	0.15	0.60			696.57
3.126	0.50	0.55	75	0.15	0.60			696.54
3.380	D=800	D=800	75	0.15	0.60			696.48
3.424	0.60	0.60	75	0.15	0.60			696.19
3.474	0.60	0.60	75	0.15	0.60			696.11
3.522	0.60	0.60	75	0.15	0.60			696.06
3.601	0.60	0.60	75	0.15	0.60			696.00
3.616	0.60	0.60	75	0.15	0.60			695.91
3.649	0.60	0.60	75	0.15	0.60			695.89
3.696	0.60	0.60	75	0.15	0.60			695.85
3807	0.60	0.60	75	0.15	0.60			695.79

CUADRO PR

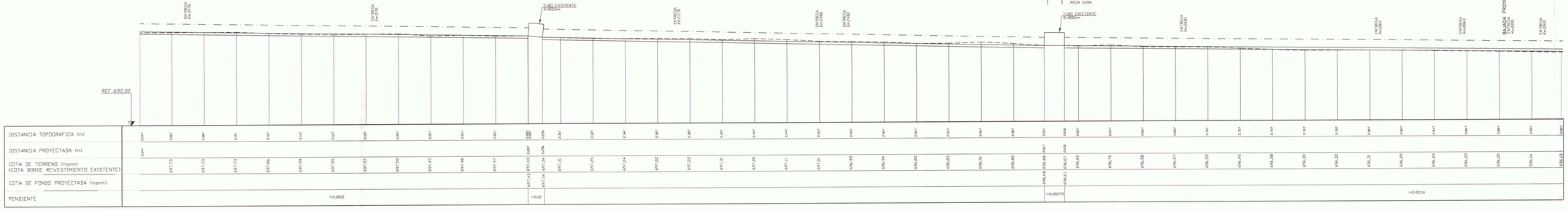
PR	NORTE	ESTE	COTA(m.)
25	6634584.32	318792.17	700.17
26	6634593.82	318470.32	697.67
27	6634368.23	318286.96	698.53

CUADRO PR ESTACION

PRE	NORTE	ESTE	COTA(m.)
25	6634630.56	318803.32	700.24
26	6634544.66	318833.32	711.61
27	6634570.53	318690.78	707.78
28	6634512.54	318675.74	706.78
29	6634514.63	318611.75	704.59
30	6634544.78	318390.66	703.78
31	6634463.91	318291.25	706.45
32	6634338.43	318220.94	720.78

PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100

CALICATA N° 14
Km. 11.58441



CALICATA N° 15
Km. 12.30584

CUADRO DE SECCIONES

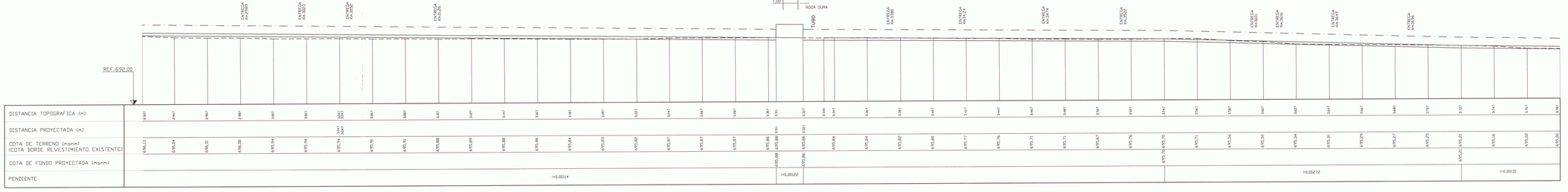
TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
2.268	2.578	0.5000	0.55	
2.578	2.591	D=800	D=800	Tuberia existente
2.591	3.284	0.5000	0.55	

CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE Nº	COORDENADAS		UBICACION					INICIO CURVA	FIN CURVA
	ESTE	NORTE	VERTICE	ANGULO	RADIO	TANGENTE	DESARROLLO		
	(m)	(m)	(m)	(g)	(m)	(m)	(m)	(m)	(m)
102	318812.8214	6634746.232	3882.41	-32.87	2.5	0.66	1.29	3881.8	3882.4
103	318815.821	6634716.733	3912.04	51.41	2.5	1.07	2.03	3910.4	3912.4
104	318813.196	6634713.651	3916.12	-34.28	2.5	0.71	1.37	3915.4	3916.4
105	318789.523	6634713.193	3939.80	-41.86	2.5	0.85	1.64	3938.1	3939.7
106	318781.731	6634706.536	3949.79	-38.85	2.5	0.78	1.52	3948.5	3949.8
107	318777.457	6634682.435	3964.91	-29.49	2.5	0.59	1.16	3963.3	3964.5
108	318786.004	6634644.595	4013.14	-37.03	2.5	0.74	1.45	4012.4	4013.9
109	318815.654	6634613.102	4056.80	19.16	2.5	0.38	0.75	4055.4	4056.1
110	318830.911	6634582.089	4091.37	-29.46	2.5	0.59	1.16	4089.7	4090.9
111	318838.280	6634575.729	4101.86	45.11	2.5	0.92	1.77	4099.9	4101.6
112	318839.503	6634566.589	4103.31	34.42	2.5	0.70	1.35	4102.6	4103.9
113	318836.622	6634566.168	4111.63	53.54			0.00	4110.8	4110.8
114	318835.341	6634565.628	4112.32	45.83	2.0	0.75	1.44	4111.4	4112.8
115	318812.161	6634523.290	4137.73	25.11	2.0	0.40	0.79	4136.1	4136.9
116	318793.076	6634589.830	4162.38	-35.55	2.0	0.57	1.13	4161.2	4162.3
117	318757.237	6634585.450	4198.26	-12.67	2.0	0.20	0.40	4197.8	4198.2
118	318736.704	6634564.556	4219.81	46.33	2.0	0.76	1.49	4217.8	4219.2
119	318724.557	6634604.465	4235.49	-52.85	2.0	0.89	1.68	4233.3	4234.9
120	318704.881	6634601.575	4255.51	56.12	2.0	0.98	1.78	4253.0	4254.8
121	318682.437	6634622.289	4285.92	-40.13	2.0	0.65	1.26	4283.7	4285.0
122	318673.918	6634623.271	4294.49	-83.35	2.0	1.34	2.82	4291.6	4294.5
123	318658.683	6634584.717	4335.45	-20.64	2.0	0.33	0.66	4334.8	4335.4
124	318655.246	6634512.280	4408.48	-23.05	2.0	0.37	0.72	4408.1	4408.8
125	318658.998	6634500.735	4420.60	21.49	2.0	0.35	0.69	4418.0	4418.7
126	318658.815	6634499.726	4421.63	61.03			0.00	4418.5	4418.5
127	318646.448	6634464.091	4435.25	70.81			0.00	4433.2	4433.2
128	318636.903	6634501.741	4447.53	23.10	2.5	0.46	0.92	4445.0	4445.9
129	318622.873	6634526.542	4475.05	-13.15	2.5	0.26	0.52	4474.5	4474.7
130	318603.374	6634547.975	4505.00	18.57	2.5	0.33	0.65	4502.6	4503.2
131	318595.090	6634564.057	4523.05	-24.77	2.5	0.49	0.97	4520.6	4521.4
132	318581.877	6634575.436	4540.48	-34.47	2.5	0.69	1.35	4537.7	4539.0
133	318566.274	6634578.105	4556.31	-9.42	2.5	0.19	0.37	4554.9	4555.2
134	318557.065	6634578.302	4565.53	34.05	2.5	0.68	1.34	4562.7	4564.0
135	318538.088	6634560.102	4587.87	-22.81	2.5	0.45	0.90	4585.2	4586.1
136	318504.211	6634598.843	4622.41	-11.81	2.5	0.23	0.46	4620.0	4620.4
137	318440.435	6634593.546	4686.05	-11.11	2.5	0.22	0.44	4683.8	4684.2
138	318437.475	6634592.770	4715.54	-4.20	2.5	0.08	0.17	4713.5	4713.6
139	318387.380	6634587.140	4765.26	24.33	2.5	0.48	0.96	4763.4	4764.3
140	318358.111	6634591.636	4793.83	-7.23	2.5	0.14	0.28	4793.2	4793.5
141	318324.623	6634600.794	4824.80	-17.73	2.5	0.35	0.70	4822.1	4822.8
142	318286.777	6634601.373	4840.47	38.18			0.00	4838.3	4838.3
143	318288.356	6634600.654	4840.97	-60.10			0.00	4838.8	4838.8
144	318250.304	6634590.205	4879.51	-53.06	2.5	0.84	1.67	4876.8	4878.5
145	318250.464	6634578.409	4886.27	-31.67	2.5	0.64	1.24	4883.4	4884.6
146	318242.030	6634530.925	4929.67	-12.55	2.5	0.25	0.49	4926.9	4927.4
147	318243.438	6634519.322	4946.25	-9.62	2.5	0.19	0.38	4943.8	4944.2
148	318251.309	6634486.910	4980.51	-16.63	2.5	0.33	0.66	4977.5	4978.1
149	318277.348	6634441.529	5031.99	-10.57	2.5	0.21	0.42	5029.5	5029.9
150	318332.907	6634374.586	5118.98	-8.06	2.5	0.16	0.33	5116.9	5117.2
151	318340.475	6634367.516	5129.34	49.37	2.5	1.03	1.98	5126.0	5128.0
152	318340.511	6634366.361	5130.47	50.09			0.00	5128.5	5128.5
153	318331.438	6634356.695	5143.75	31.83			0.00	5141.4	5141.4
154	318330.212	6634356.292	5145.04	42.86	2.5	0.87	1.68	5143.3	5145.0
155	318280.338	6634374.855	5198.25	-41.69	2.5	0.85	1.64	5194.9	5196.6
156	318265.599	6634370.319	5213.68	23.79	2.5	0.47	0.93	5211.8	5212.7
157	318260.223	6634370.724	5219.07	37.14	2.5	0.75	1.47	5215.8	5217.2
158	318243.388	6634382.274	5237.87	-12.58	2.5	0.25	0.49	5235.5	5235.9
159	318218.509	6634395.737	5267.03	10.17	2.5	0.20	0.40	5265.2	5265.6
160	318197.697	6634410.692	5293.56	-11.74	2.5	0.24	0.46	5290.6	5291.1
161	318179.719	6634446.100	5328.64	-18.29	2.5	0.36	0.72	5325.2	5325.9
162	318171.585	6634418.684	5319.21	22.63	2.5	0.45	0.89	5316.2	5317.1
163	318167.447	6634422.095	5325.25	13.89	2.5	0.27	0.54	5324.2	5324.7
164	318158.519	6634435.284	5342.17	-15.35	2.5	0.30	0.60	5339.1	5339.6
165	318145.719	6634466.857	5359.43	-19.62	2.5	0.39	0.77	5356.4	5357.2
166	318118.741	6634460.040	5391.26	9.90	2.5	0.19	0.39	5388.4	5388.8
167	318088.307	6634478.771	5429.31	-42.37	2.5	0.86	1.69	5427.8	5429.5
168	318080.992	6634478.161	5432.65	-53.69	2.5	1.12	2.11	5428.8	5430.9
169	318067.252	6634459.876	5455.52	-15.12	2.5	0.30	0.59	5452.6	5453.2
170	318062.117	6634447.963	5468.50	18.53	2.5	0.37	0.73	5465.3	5466.0
171	318038.363	6634419.683	5505.41	-33.24	2.5	0.67	1.31	5501.9	5503.2
172	318033.853	6634384.133	5531.36	57.43			0.00	5528.5	5528.5
173	318020.732	6634387.086	5546.25	53.15	2.5	1.11	2.09	5542.2	5544.4
174	318003.660	6634393.186	5564.44	-26.35	2.5	0.53	1.04	5560.9	5562.0
175	317992.263	6634392.333	5575.81	-29.28	2.5	0.59	1.15	5572.2	5573.4

PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100

CALICATA N° 16
Km. 13.01398



CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
2.591	3.284	0.5000	0.55	
3.284	3.397	D=800	D=800	Tuberia existente
3.397	3.700	0.6000	0.60	
3.700	4.060	0.6000	0.60	

DISPOSICION DE LAMINAS

SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS
- PARA VER DETALLES ENTREGAS PREDIALES VER PLANO N°047-3/3

GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISION NACIONAL DE RIEGO

CONSULTOR
GCF Ingenieros Ltda.

Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo

Escala: Indicadas

Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956

Fecha: FEBRERO 2010

Título Plano: CANAL VADO DE PICHASCA PLANTA Y PERFIL LONGITUDINAL

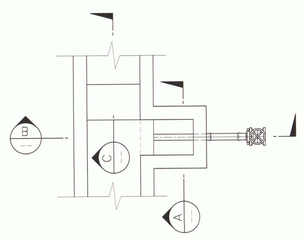
Lámina: 047-2/3

VADO DE PICHASCA

PLANTA GENERAL
ESC. 1:1000

DETALLE ENTREGA PREDIAL

PLANTA
ESC. 1:25



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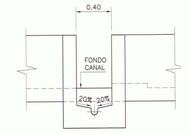

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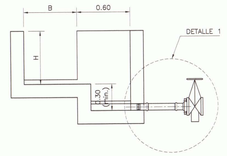

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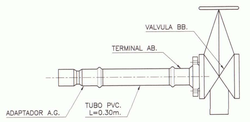
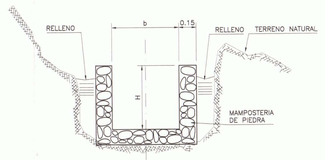
DETALLE 1
ESC. 1:10



SECCION TIPO
S/E



CUADRO PR

PR	NORTE	ESTE	COTA(m.)
27	6634368.23	318286.06	698.53
28	6634304.01	317932.95	696.60
29	6634145.68	317847.63	696.94
30	6634070.06	317643.09	693.85
31	6634221.73	317438.91	693.75

CUADRO PR ESTACION

PRE	NORTE	ESTE	COTA(m.)
33	6634145.24	318047.44	744.09
34	6634174.89	317960.52	714.39
35	6634019.20	317535.20	717.62
36	6634119.28	317538.44	711.19
37	6634264.03	317420.00	696.52

CUADRO DE ENTREGAS PREDIALES
CANAL VADO DE PICHASCA

Km.	DIMENSIONES(m) CANAL (m.) B	H	DIAMETRO ENTREGA (mm.)	GRADA (m.) a	l	COTAS FONDO EXIST.	PROY.
3.906	0.60	0.60	75	0.15	0.60		695.62
3.938	0.60	0.50	75	0.15	0.60		695.47
4.220	D=800	D=800	75	0.15	0.60		695.43
4.431	0.60	0.60	75	0.15	0.60		695.01
4.451	0.60	0.60	75	0.05	0.60		694.69

CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE Nº	COORDENADAS ESTE (m)	COORDENADAS NORTE (m)	UBICACION VERTICE (m)	ANGULO (°)	RADIO (m.)	TANGENTE (m.)	DESARROLLO (m.)	INICIO CURVA (m)	FIN CURVA (m)
176	317950.033	6634367.298	5624.81	-20.85	2.5	0.41	0.80	5621.5	5622.3
177	317931.322	6634345.463	5653.66	-37.40	2.5	0.76	1.47	5644.9	5651.3
178	317926.589	6634331.998	5667.22	-10.61	2.5	0.21	0.42	5663.9	5664.4
179	317930.474	6634314.911	5684.33	8.99	2.5	0.18	0.35	5681.1	5681.4
180	317927.521	6634288.220	5711.14	-7.58	2.5	0.15	0.30	5707.9	5708.2
181	317928.601	6634259.655	5739.71	54.83	2.5	1.15	2.15	5735.5	5737.6
182	317908.594	6634241.893	5766.24	-45.20	2.5	0.93	1.78	5762.1	5763.9
183	317907.343	6634229.773	5778.46	-24.98	2.5	0.50	0.98	5774.7	5775.6
184	317911.186	6634215.605	5793.14	43.04	2.5	0.80	1.69	5788.9	5790.6
185	317907.431	6634206.977	5802.55	-24.14	2.5	0.48	0.95	5798.1	5799.0
186	317907.010	6634193.719	5815.82	-12.54	2.5	0.25	0.49	5812.2	5812.7
187	317913.609	6634154.166	5855.92	2.40	2.5	0.05	0.09	5852.0	5852.0
188	317917.013	6634127.841	5882.58	-29.28	2.5	0.57	1.13	5878.7	5879.8
189	317918.067	6634124.215	5886.66	29.03	2.5	0.58	1.14	5882.7	5883.8
190	317918.172	6634122.822	5887.98	51.03	2.5	1.01	2.00	5884.5	5886.5
191	317918.177	6634122.822	5887.98	0.00	0.00	0.00	0.00	5900.5	5900.5
192	317912.476	6634107.791	5903.98	45.33	2.5	0.90	1.77	5900.2	5901.9
193	317912.476	6634105.414	5907.46	32.61	2.5	0.64	1.27	5903.3	5904.6
194	317899.584	6634105.026	5921.56	22.78	2.5	0.45	0.89	5917.4	5918.3
195	317892.889	6634105.530	5927.05	39.51	2.5	0.80	1.54	5923.0	5924.5
196	317889.277	6634109.862	5932.89	-15.08	2.5	0.30	0.60	5929.1	5929.7
197	317878.441	6634117.858	5944.35	20.27	2.5	0.40	0.80	5942.4	5943.2
198	317868.191	6634136.941	5969.74	-19.77	2.5	0.39	0.78	5965.0	5965.8
199	317860.305	6634141.550	5976.16	20.73	2.5	0.41	0.81	5972.3	5973.1
200	317851.783	6634147.800	5983.10	-48.31	2.5	1.00	1.99	5978.8	5980.7
201	317851.137	6634149.849	5989.10	-11.99	2.5	0.24	0.47	5985.2	5985.7
202	317845.585	6634150.848	5995.23	65.56	2.5	1.41	2.77	5990.2	5992.9
203	317843.886	6634155.373	6000.10	9.73	2.5	0.18	0.37	5998.0	5998.4
204	317839.183	6634175.031	6020.01	-2.64	2.5	0.05	0.11	6016.9	6017.0
205	317833.594	6634195.290	6041.33	-10.71	2.5	0.21	0.42	6037.2	6037.7
206	317827.787	6634220.155	6068.86	11.99	2.5	0.24	0.47	6064.1	6064.5
207	317818.406	6634233.184	6082.32	17.12	2.5	0.34	0.67	6078.1	6078.8
208	317815.751	6634244.901	6094.04	-18.05	2.5	0.36	0.71	6089.8	6090.5
209	317807.786	6634269.486	6119.54	-37.78	2.5	0.76	1.48	6114.9	6116.4
210	317807.218	6634273.399	6125.54	-43.44	2.5	0.88	1.71	6120.7	6122.4
211	317785.880	6634273.954	6146.95	4.03	2.5	0.08	0.16	6142.8	6143.0
212	317746.665	6634277.458	6186.27	19.54	2.5	0.39	0.77	6181.5	6182.3
213	317727.130	6634285.639	6207.04	-21.45	2.5	0.43	0.84	6203.0	6203.8
214	317707.598	6634286.811	6227.02	9.47	2.5	0.19	0.37	6222.8	6223.2
215	317692.649	6634289.876	6242.37	17.06	2.5	0.34	0.67	6237.9	6238.6
216	317675.954	6634298.598	6261.09	-20.12	2.5	0.40	0.79	6256.7	6257.4
217	317671.842	6634299.164	6265.48	-48.19	2.5	1.01	2.00	6259.7	6261.8
218	317668.952	6634295.544	6269.87	-28.56	2.5	0.57	1.12	6265.1	6266.2
219	317666.805	6634285.550	6280.19	-15.43	2.5	0.30	0.61	6275.5	6276.1
220	317667.490	6634283.259	6302.49	-12.41	2.5	0.24	0.49	6297.9	6298.4
221	317672.017	6634241.380	6334.96	-3.48	2.5	0.07	0.13	6330.4	6330.6
222	317680.516	6634221.004	6346.83	14.04	2.5	0.28	0.55	6342.2	6342.7
223	317685.083	6634191.599	6379.08	10.03	2.5	0.20	0.39	6372.0	6372.4
224	317685.008	6634170.092	6398.09	17.05	2.5	0.34	0.67	6393.4	6394.1
225	317688.160	6634113.131	6457.21	18.86	2.5	0.37	0.74	6452.5	6453.2
226	317640.283	6634067.815	6510.96	-36.13	2.5	0.73	1.42	6505.9	6507.3
227	317640.284	6634042.333	6538.44	-13.63	2.5	0.27	0.54	6531.8	6532.3
228	317643.740	6634028.445	6552.70	16.15	2.5	0.32	0.63	6548.0	6548.6
229	317643.567	6634021.799	6557.70	-71.66	2.5	1.70	3.09	6551.2	6554.3
230	317685.539	6634030.271	6601.19	-113.80	2.5	2.01	12.32	6607.1	6619.5
231	317699.147	6634024.195	6668.81	96.22	2.5	1.95	3.31	6662.5	6625.8
232	317676.743	6634012.378	6629.01	9.80	2.5	0.19	0.36	6640.9	6641.3
233	317663.918	6634003.670	6641.41	22.15	2.5	0.44	0.87	6656.2	6657.0
234	317648.505	6633999.780	6657.41	12.84	2.5	0.25	0.50	6672.2	6672.7
235	317635.556	6633999.158	6670.37	50.10	2.5	1.08	2.05	6684.4	6686.4
236	317630.982	6634003.630	6676.79	8.27	2.5	0.16	0.32	6691.6	6691.9
237	317625.265	6634011.127	6686.34	-41.80	2.5	0.85	1.64	6700.1	6701.8
238	317610.539	6634014.652	6700.87	21.81	2.5	0.43	0.86	6715.3	6716.2
239	317598.597	6634022.874	6715.10	9.13	2.5	0.18	0.36	6730.0	6730.4
240	317578.512	6634040.881	6742.68	30.17	2.5	0.60	1.18	6757.0	6758.2
241	317573.529	6634053.900	6756.61	19.52	2.5	0.39	0.77	6771.1	6771.9
242	317572.319	6634074.335	6777.08	-15.78	2.5	0.31	0.62	6791.6	6792.3
243	317569.613	6634082.695	6785.85	13.81	2.5	0.27	0.53	6800.4	6801.0
244	317569.951	6634087.225	6790.40	-34.47	2.5	0.69	1.35	6804.6	6805.9
245	317568.556	6634090.808	6794.85	46.87	2.5	0.95	1.83	6808.7	6810.5
246	317567.142	6634098.129	6800.20	49.39	2.5	1.02	1.94	6813.9	6815.9
247	317572.841	6634110.275	6807.74	-42.58	2.5	0.84	1.63	6813.3	6823.2
248	317578.695	6634116.943	6813.38	-26.79	2.5	0.53	1.05	6847.4	6848.5
249	317572.885	6634155.468	6863.41	-21.83	2.5	0.43	0.85	6877.5	6878.4
250	317568.577	6634167.058	6876.33	-13.69	2.5	0.27	0.54	6891.1	6891.7
251	317560.033	6634184.270	6900.44	-21.44	2.5	0.42	0.84	6914.6	6915.4
252	317557.820	6634195.970	6913.05	11.39	2.5	0.22	0.45	6939.3	6939.5
253	317518.167	6634199.038	6934.72	-16.11	2.5	0.32	0.63	6948.9	6949.6
254	317502.900	6634209.461	6951.05	-45.11	2.5	0.89	1.74	6965.2	6966.9
255	317478.600	6634200.250	6975.35	11.39	2.5	0.22	0.45	6989.7	6990.1
256	317467.756	6634203.114	6989.35	36.91	2.5	0.73	1.45	7000.1	7001.6
257	317439.584	6634228.635	7025.28	49.88	2.5	1.03	1.95	7038.7	7040.7
258	317438.009	6634262.876	7059.53	-30.19	2.5	0.60	1.19	7073.3	7074.5
259	317431.776	6634273.979	7072.26	-24.58	2.5	0.49	0.97	7086.1	7087.1
260	317429.030	6634278.562	7078.61	-14.61	2.5	0.29	0.57	7093.7	7094.2
261	317419.494	6634281.871	7088.85	-25.11	2.5	0.50	0.99	7100.7	7101.7
262	317404.441	6634282.416	7101.81	-33.80	2.5	0.68	1.33	7115.8	7117.1
263	317400.010	6634280.098	7106.91	-51.68	2.5	1.07	2.03	7120.1	7122.2
264	317398.807	6634279.830	7111.75	35.10	2.5	0.71	1.39	7124.8	7126.2
265	317391.692	6634298.298	7121.01	47.28		0.00	0.00	7130.2	7130.2

PERFIL LONGITUDINAL
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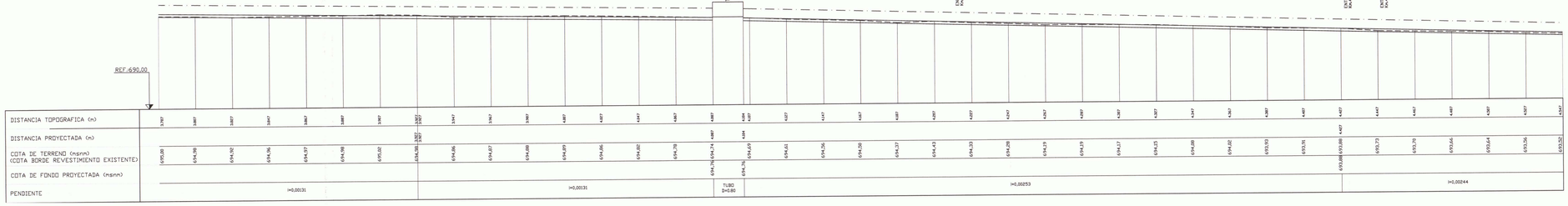
ESC. V=1:100

CALICATA N° 17
Km. 1.572100



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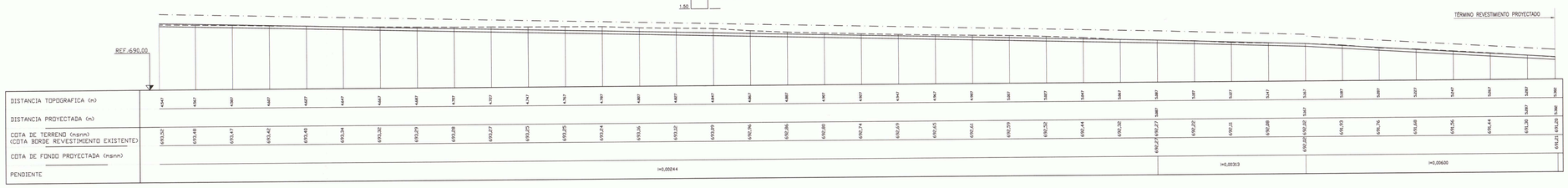
CALICATA N° 18
Km. 14.53281



CUADRO DE SECCIONES

TRAMO (Km)	SECCIÓN b (m)	H (m)	OBS.
3.700	4.060	0.6000	0.60	
4.060	4.400	D=800	D=800	Tuberia existente
4.400	5.275	0.6000	0.60	

DISPOSICION DE LAMINAS

SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTA GENERAL:

– TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS

GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISIÓN NACIONAL DE RIEGO

CONSULTOR
GCF Ingenieros Ltda.

Nombre Estudio
Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo

Escala
Indicadas

Proyección Cartográfica
UTM (Universal Transversal de mercator)
Huso 19 Sur Datum PSAD 1956

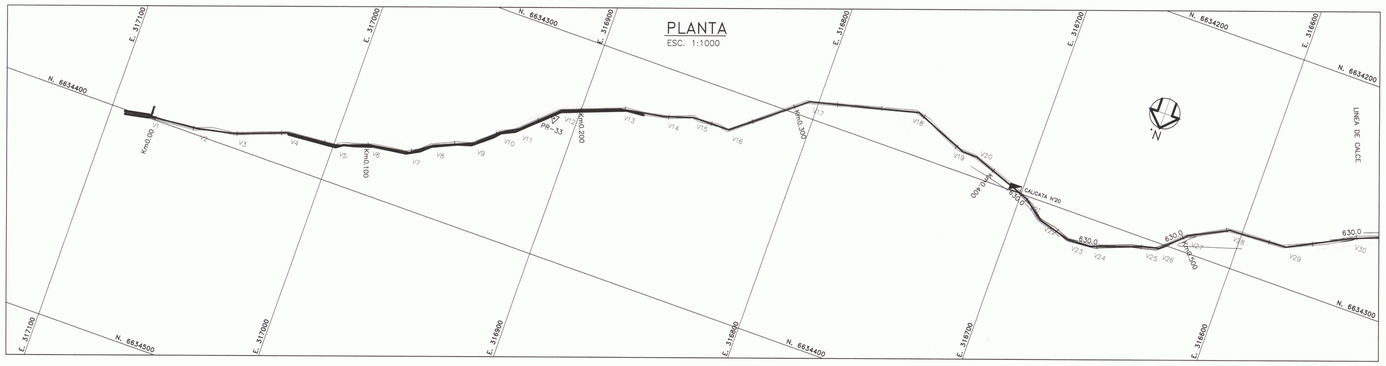
Título Plano
CANAL VADO DE PICHASCA
PLANTA, PERFIL LONGITUDINAL Y DETALLES

Fecha
FEBRERO 2010

Lámina:
047-3/3

CANAL TRANQUILLA

PLANTA
ESC. 1:1000



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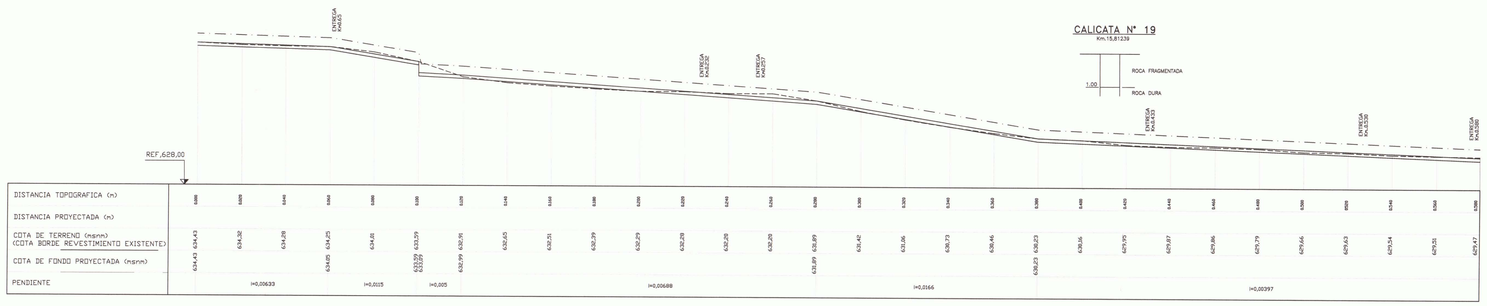
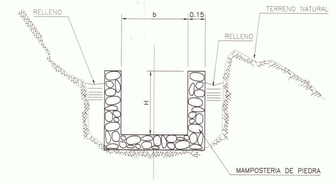


SECCION TIPO
S/E



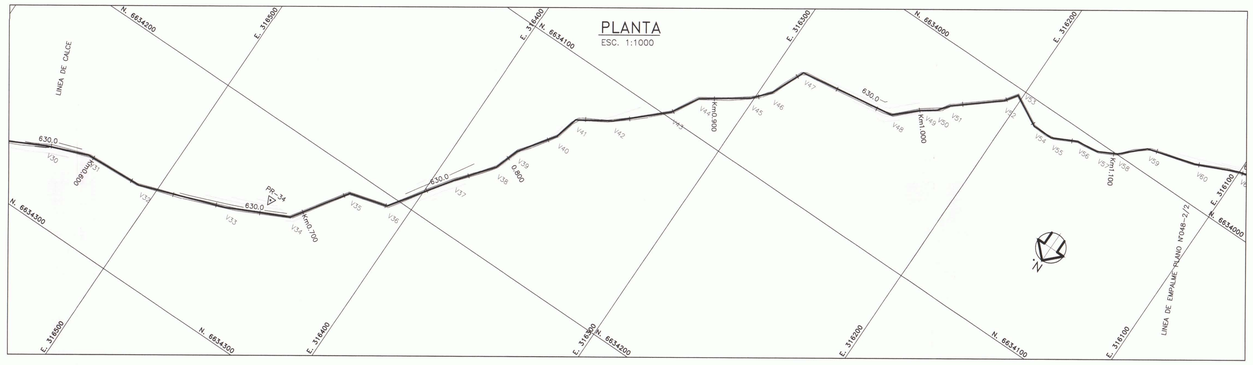
CUADRO DE PR

PR	*NORTE*	*ESTE*	*COTA(m.)*
32	*6634399.99*	*317134.80*	*638.18*
33	*6634338.73*	*316910.16*	*633.09*
34	*6634232.13*	*316455.00*	*633.53*

CUADRO DE ENTREGAS PREDIALES
CANAL TRANQUILLA

Km,	DIMENSIONES(m) CANAL (m.) B	H	DIAMETRO ENTREGA (mm.)	GRADA (m.) e	l	COTAS FONDO EXIST.	PROY.
0.065	0.45	0.40	75	00	00		00
0.232	0.45	0.40	75	00	00		00
0.257	0.45	0.40	75	00	00		00
0.433	0.45	0.40	75	00	00		00
0.530	0.45	0.40	75	00	00		00
0.580	0.45	0.40	75	00	00		00
0.678	0.45	0.40	75	00	00		00
0.697	0.45	0.40	75	00	00		00
0.843	0.45	0.40	75	00	00		00
0.871	0.45	0.40	75	00	00		00
0.924	0.45	0.40	75	00	00		00
1.031	0.45	0.40	75	00	00		00

PLANTA
ESC. 1:1000



PERFIL LONGITUDINAL
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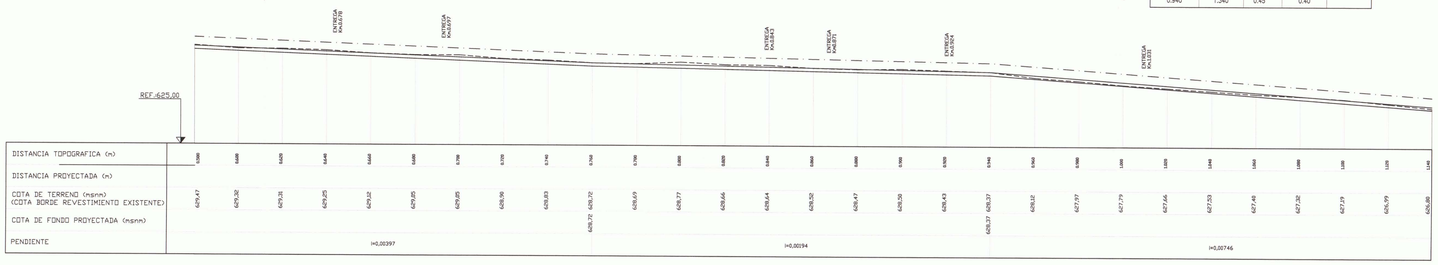


CUADRO DE SECCIONES

TRAMO (Km)		SECCION b (m)	H (m)	OBS.
0.000	0.760	0.45	0.40	
0.760	0.940	0.45	0.40	
0.940	1.340	0.45	0.40	

CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE Nº	COORDENADAS ESTE (m)	NORTE (m)	UBICACION VERTICE	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
1	317082.8534	6634399.1528	0.00					0.0	0.0
2	317060.7388	6634387.2458	22.20	−7.85	2	0.13	0.25	22.1	22.3
3	317043.4981	6634383.5844	39.82	−9.54	2	0.15	0.30	39.7	40.0
4	317021.5144	6634385.3320	63.30	17.11	2	0.27	0.54	63.0	63.6
5	316999.0360	6634383.2973	85.87	−16.81	2	0.27	0.53	85.6	86.1
6	316984.8579	6634378.0420	100.85	12.87	2	0.20	0.41	100.7	101.0
7	316966.8485	6634375.2742	119.21	−30.08	2	0.48	0.94	118.7	119.7
8	316957.5811	6634368.5674	130.61	14.46	2	0.33	0.65	130.4	130.8
9	316940.6417	6634361.4908	148.98	−21.08	2	0.33	0.65	148.6	149.3
10	316930.8865	6634352.7058	162.04	13.31	2	0.21	0.42	161.8	162.2
11	316923.5042	6634348.5801	170.54	−15.07	2	0.24	0.47	170.3	170.8
12	316908.3648	6634334.3087	191.25	24.75	2	0.39	0.78	191.0	191.7
13	316883.1448	6634324.7015	218.13	12.46	2	0.20	0.39	217.9	218.3
14	316863.4235	6634321.8603	238.35	−8.91	2	0.14	0.28	238.2	238.5
15	316851.0927	6634317.2973	251.30	19.24	2	0.30	0.60	251.0	251.6
16	316834.1296	6634311.1479	268.26	−42.61	2	0.70	1.34	267.6	268.9
17	316804.0871	6634292.9494	306.79	27.80	2	0.44	0.87	306.3	307.2
18	316755.8872	6634280.8220	356.45	40.03	2	0.65	1.26	355.8	357.1
19	316731.2746	6634290.8726	382.95	−23.13	2	0.37	0.73	382.6	383.3
20	316724.4448	6634291.0156	389.78	21.23	2	0.34	0.67	389.4	390.1
21	316696.9219	6634301.2018	419.12	18.65	2	0.30	0.59	418.8	419.4
22	316687.8288	6634308.2285	430.78	−23.63	2	0.38	0.74	430.4	431.1
23	316673.1889	6634312.3207	445.76	−21.07	2	0.33	0.66	445.4	446.1
24	316662.5145	6634311.7351	456.45	−17.89	2	0.28	0.56	456.2	456.7
25	316640.3678	6634304.0064	479.90	5.15	2	0.10	0.19	479.8	480.0
26	316633.1612	6634302.2498	487.32	−32.58	2	0.52	1.02	486.8	487.8
27	316622.6151	6634292.4132	501.72	17.58	2	0.28	0.56	501.4	502.0
28	316605.7720	6634283.7631	520.65	26.87	2	0.43	0.84	520.2	521.1
29	316579.2270	6634280.3711	547.32	−26.84	2	0.43	0.84	546.8	547.6
30	316552.7439	6634268.7855	576.27	3.42	2	0.05	0.10	576.2	577.1
31	316534.3624	6634260.1665	596.14	33.00	2	0.53	1.04	595.6	597.1
32	316508.1208	6634256.8315	623.04	−18.18	2	0.29	0.57	622.7	623.3
33	316470.1677	6634244.3678	663.34	−6.68	2	0.10	0.21	663.2	663.4
34	316443.2153	6634235.3019	693.25	−9.81	2	0.14	0.28	693.1	693.3
35	316427.1676	6634209.4819	722.01	45.17	2	0.74	1.42	721.3	722.7
36	316409.8658	6634194.1104	739.86	−44.32	2	0.73	1.39	739.2	740.5
37	316391.5787	6634178.2190	772.02	4.38	2	0.07	0.14	772.0	772.1
38	316378.9967	6634174.4331	792.22	−21.77	2	0.35	0.68	791.9	792.6
39	316375.1291	6634151.2275	804.05	17.98	2	0.28	0.56	803.8	804.3
40	316364.0286	6634136.4780	823.32	−22.98	2	0.38	0.72	823.0	823.7
41	316361.2173	6634124.5885	834.56	47.75	2	0.79	1.50	833.8	835.3
42	316346.9519	6634115.6943	851.41	−11.53	2	0.18	0.36	851.2	851.6
43	316327.6005	6634097.3056	878.11	−19.09	2	0.30	0.60	877.8	878.4
44	316301.5495	6634085.3901	891.85	38.01	2	0.45	0.88	891.4	892.3
45	316301.2694	6634071.9461	915.34	−15.14	2	0.24	0.48	915.1	915.6
46	316294.6597	6634066.4713	925.31	−20.30	2	0.32	0.64	925.0	925.6
47	316288.0930	6634048.1631	941.96	84.55	2	1.11	2.03	940.9	942.9
48	316244.4145	6634052.4882	985.96	−38.21	2	0.62	1.22	985.3	986.5
49	316235.1197	6634033.7979	998.64	8.51	2	0.13	0.27	998.5	998.8
50	316228.5268	6634029.1115	1006.19	−18.47	2	0.29	0.58	1006.4	1007.0
51	316224.5780	6634024.6305	1012.16	13.71	2	0.22	0.43	1012.0	1012.4
52	316205.9981	6634008.8092	1037.31	−16.77	2	0.26	0.53	1037.0	1037.6
53	316202.0753	6634003.0564	1044.11	92.10	2	1.77	2.89	1042.3	1045.2
54	316188.1867	6634010.4665	1059.21	−30.74	2	0.49	0.97	1058.7	1059.7
55	316178.8447	6634010.5365	1068.43	−29.99	2	0.48	0.94	1068.0	1068.9
56	316168.1431	6634005.1376	1080.49	22.25	2	0.35	0.70	1080.1	1080.8
57	316158.3984	6634004.0178	1090.53	−23.58	2	0.37	0.74	1090.0	1090.7
58	316150.0631	6633996.8537	1099.70	−17.88	2	0.28	0.56	1099.4	1100.0
59	316140.1492	6633990.1339	1113.44	30.65	2	0.49	0.96	1112.9	1113.9
60	316118.1621	6633983.7222	1136.32	−8.81	2	0.14	0.28	1136.2	1136.5

DISPOSICION DE LAMINAS

SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS
- PARA VER DETALLES ENTREGAS PREDIALES VER PLANO N°048-2/2

GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISION NACIONAL DE RIEGO

Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo

Título Plano: CANAL TRANQUILLA PLANTA Y PERFIL LONGITUDINAL

CONSULTOR: GCF Ingenieros Ltda.

Escala: Indicadas

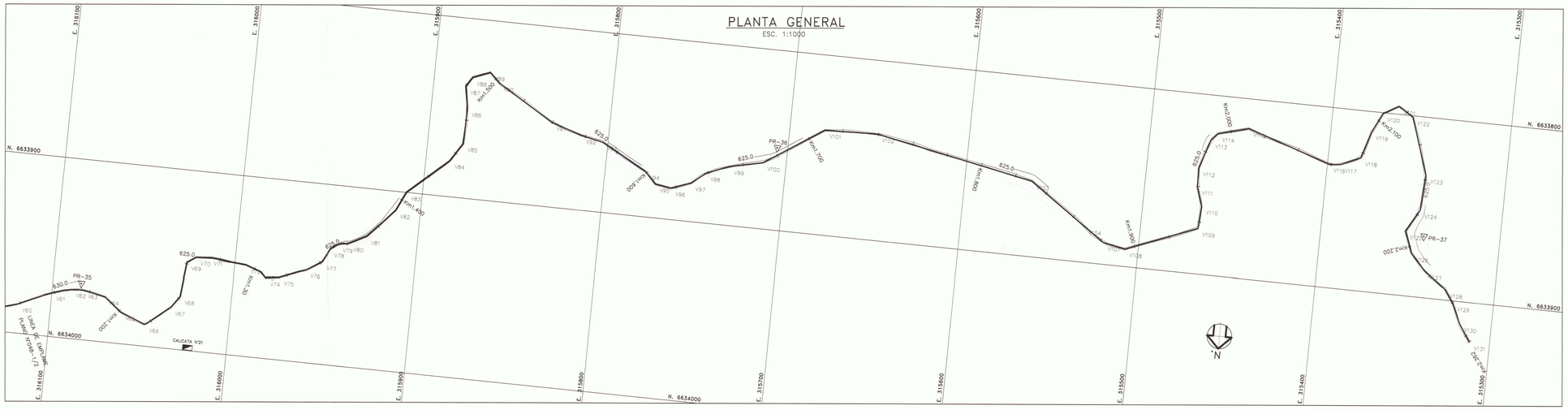
Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956

Fecha: FEBRERO 2010

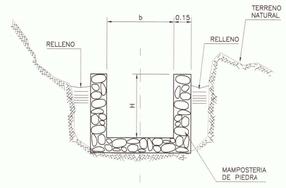
Lámina: 048-1/2

CANAL TRANQUILLA

PLANTA GENERAL
ESC. 1:1000



SECCION TIPO
S/E

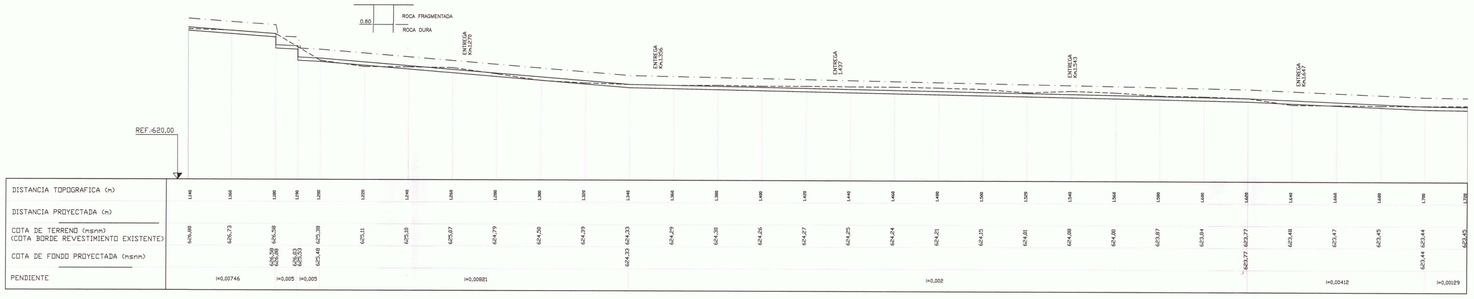


CUADRO DE SECCIONES

TRAMO (Km)		SECCION b (m)	SECCION H (m)	OBS.
0.940	1.340	0.45	0.40	
1.340	1.620	0.45	0.40	
1.620	1.700	0.45	0.40	
1.700	1.980	0.45	0.45	

PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100

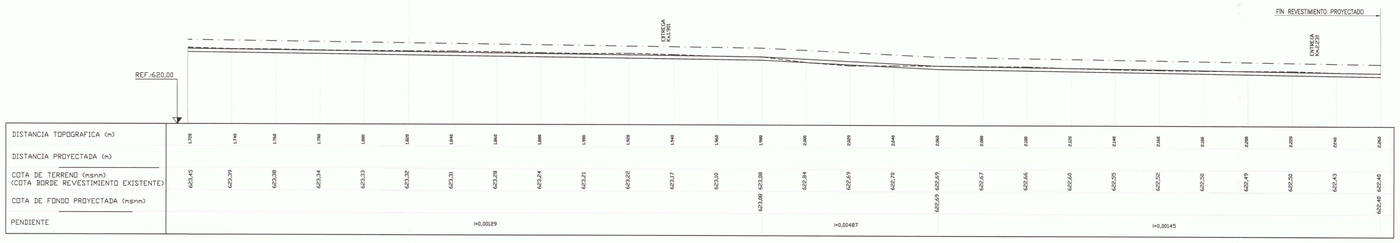
CALICATA N° 20
Km. 16.62837



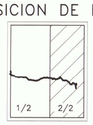
CUADRO DE SECCIONES

TRAMO (Km)		SECCION b (m)	SECCION H (m)	OBS.
1.700	1.980	0.45	0.45	
1.980	2.060	0.45	0.45	
2.060	2.260	0.45	0.45	

PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100

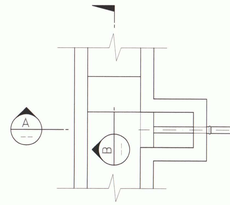


DISPOSICION DE LAMINAS



DETALLES DE ENTREGAS PREDIALES

PLANTA
ESC. 1:25



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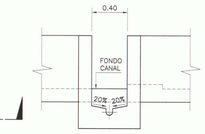

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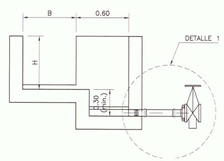
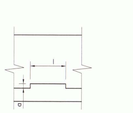
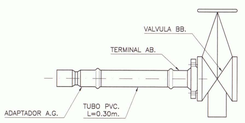


SECCION B
ESC.1:25



DETALLE 1
ESC. 1:10



CUADRO DE ENTREGAS PREDIALES

Km.	DIMENSIONES(m) CANAL (m.) B	H	DIAMETRO ENTREGA (mm.)	GRADA (m.)		COTAS FONDO EXIST.	PROY.
1.270	0.45	0.40	75	00	00		00
1.356	0.45	0.40	75	00	00		00
1.437	0.45	0.40	75	00	00		00
1.543	0.45	0.40	75	00	00		00
1.647	0.45	0.40	75	00	00		00
1.901	0.45	0.45	75	00	00		00
2.233	0.45	0.45	75	00	00		00

CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE N°	COORDENADAS ESTE (m)	COORDENADAS NORTE (m)	UBICACION VERTICE (m)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
60	316118.1821	6633985.7222	1136.32	-4.81	2	0.14	0.28	1136.2	1136.5
61	316109.8883	6633975.5189	1156.34	10.20	2	0.16	0.33	1156.2	1156.5
62	316089.0885	6633972.6206	1167.53	15.38	2	0.24	0.48	1167.3	1167.8
63	316082.4820	6633972.4851	1174.16	13.45	2	0.22	0.43	1173.9	1174.4
64	316070.3715	6633974.8212	1186.47	30.03	2	0.48	0.94	1186.0	1186.9
65	316050.5437	6633982.4888	1198.93	-18.66	2	0.30	0.59	1198.6	1199.2
66	316046.5795	6633987.8972	1213.89	-67.03	2	1.16	2.11	1212.7	1214.8
67	316033.9644	6633977.1950	1230.84	-17.05	2	0.27	0.54	1230.6	1231.1
68	316028.5632	6633970.4186	1238.97	-32.86	2	0.53	1.03	1238.4	1239.5
69	316026.8298	6633965.1856	1258.28	55.94	2	0.94	1.76	1257.3	1259.1
70	316021.7982	6633947.6360	1283.98	32.44	2	0.52	1.02	1283.5	1284.5
71	316014.4055	6633947.3264	1271.37	11.46	2	0.18	0.36	1271.2	1271.6
72	315993.5407	6633949.3733	1292.34	14.25	2	0.23	0.45	1292.1	1292.6
73	315985.6311	6633952.0081	1300.67	27.03	2	0.43	0.85	1300.2	1301.1
74	315982.1157	6633955.2577	1309.45	-50.76	2	0.84	1.75	1308.6	1310.3
75	315974.4989	6633954.3641	1313.01	-16.21	2	0.26	0.51	1312.8	1313.3
76	315960.2174	6633948.4888	1328.41	-9.59	2	0.15	0.30	1328.3	1328.6
77	315951.4397	6633944.4059	1338.38	-37.36	2	0.60	1.17	1337.8	1338.9
78	315947.8983	6633935.8491	1346.70	37.86	2	0.61	1.20	1346.2	1347.4
79	315943.4567	6633932.5997	1352.29	37.86	2	0.45	0.88	1351.8	1352.7
80	315937.6003	6633931.2138	1358.24	-18.72	2	0.30	0.59	1357.9	1358.5
81	315928.3721	6633926.7414	1368.62	-22.62	2	0.36	0.71	1368.3	1369.0
82	315913.8908	6633910.6110	1390.43	-19.05	2	0.30	0.60	1390.1	1390.7
83	315908.7709	6633900.1238	1402.01	25.37	2	0.40	0.80	1401.6	1402.4
84	315898.4004	6633879.9724	1432.10	-18.34	2	0.29	0.58	1431.8	1432.4
85	315880.1607	6633889.7844	1444.05	-34.01	2	0.55	1.07	1443.5	1444.6
86	315879.8623	6633850.2505	1463.56	-11.35	2	0.18	0.36	1463.4	1463.7
87	315881.8747	6633838.0181	1475.90	45.66	2	0.75	1.42	1475.2	1476.6
88	315878.6850	6633832.8490	1481.96	39.81	2	0.65	1.25	1481.3	1482.6
89	315880.0727	6633828.8860	1492.32	74.12	2	1.32	2.33	1491.0	1493.3
90	315883.5054	6633824.2705	1499.72	-15.02	2	0.24	0.47	1499.5	1500.0
91	315832.0301	6633853.0486	1536.41	-14.42	2	0.23	0.45	1536.2	1536.6
92	315814.8402	6633858.5693	1554.47	-6.85	2	0.12	0.21	1554.4	1554.6
93	315802.9001	6633861.0677	1566.66	18.53	2	0.29	0.58	1566.4	1567.0
94	315777.8774	6633874.7583	1595.36	18.75	2	0.30	0.59	1595.1	1595.7
95	315771.2879	6633881.2197	1604.43	-41.34	2	0.67	1.30	1603.8	1605.1
96	315762.0982	6633882.5119	1613.40	-31.24	2	0.50	0.98	1613.0	1614.0
97	315751.4716	6633878.5846	1624.98	-21.84	2	0.35	0.69	1624.6	1625.3
98	315743.1748	6633872.2149	1634.98	20.18	2	0.32	0.63	1634.6	1635.3
99	315731.0315	6633867.2088	1648.65	20.18	2	0.32	0.63	1648.3	1648.9
100	315713.8629	6633863.2591	1667.21	-23.61	2	0.38	0.74	1666.8	1667.5
101	315690.3435	6633861.8871	1706.25	30.55	2	0.50	1.00	1705.7	1706.8
102	315650.8995	6633840.8850	1735.57	14.01	2	0.22	0.44	1735.4	1735.8
103	315645.3983	6633858.1322	1825.65	28.46	2	0.42	0.83	1825.2	1826.0
104	315631.1507	6633880.0382	1863.95	-0.54	0	0.00	0.00	1864.0	1864.0
105	315631.1450	6633880.0421	1863.96	0.00	0	0.00	0.00	1864.0	1864.0
106	315631.1363	6633880.0460	1863.97	0.10	0	0.00	0.00	1864.0	1864.0
107	315631.6323	6633867.9465	1877.53	-28.27	2	0.42	0.83	1877.1	1878.0
108	315607.2405	6633860.3178	1890.53	-36.15	2	0.58	1.14	1889.9	1891.1
109	315467.8895	6633814.6943	1932.75	-71.99	2	1.27	2.26	1931.5	1933.7
110	315467.2036	6633862.1665	1944.92	-24.20	2	0.38	0.76	1944.5	1945.3
111	315470.6680	6633881.1029	1956.03	18.09	2	0.29	0.57	1955.7	1956.3
112	315471.0070	6633841.3330	1966.40	21.55	2	0.34	0.68	1966.1	1966.7
113	315466.8869	6633825.1255	1983.39	27.44	2	0.44	0.86	1983.0	1983.8
114	315462.2802	6633821.1467	1988.75	38.41	2	0.59	1.14	1988.2	1989.3
115	315445.3745	6633816.6129	2008.22	38.67	2	0.59	1.13	2007.6	2008.8
116	315399.0301	6633831.6637	2054.92	-24.41	2	0.39	0.77	2054.5	2055.3
117	315362.6569	6633831.2059	2091.29	-23.22	2	0.35	0.70	2090.9	2091.6
118	315351.7283	6633826.5446	2103.24	-24.17	2	0.36	0.72	2072.2	2073.0
119	315277.2094	6633811.3460	2088.81	10.41	2	0.16	0.33	2088.5	2089.0
120	315277.9064	6633800.5449	2110.64	37.86	2	0.61	1.19	2100.2	2101.4
121	315363.3707	6633790.6641	2110.64	68.91	2	1.20	2.16	2109.4	2111.6
122	315355.2093	6633800.8198	2120.06	43.55	2	0.71	1.37	2119.3	2120.7
123	315344.6294	6633832.3398	2153.24	24.62	2	0.39	0.77	2152.8	2153.6
124	315345.8628	6633851.8048	2172.84	28.69	2	0.46	0.90	2172.4	2173.3
125	315352.8236	6633864.2491	2187.00	-55.57	2	0.93	1.75	2186.1	2187.8
126	315348.3019	6633878.2797	2199.73	-25.13	2	0.40	0.79	2199.3	2200.1
127	315339.8670	6633880.2576	2212.04	-11.80	2	0.19	0.37	2211.9	2212.2
128	315327.4731	6633894.3174	2227.39	21.67	2	0.34	0.68	2227.0	2227.7
129	315322.7139	6633901.2861	2235.82	11.98	2	0.17	0.35	2235.6	2236.0
130	315317.7044	6633912.5523	2247.97	-10.93	2	0.17	0.34	2247.8	2248.1
131	315311.2010	6633921.9254	2259.54	-62.01	0	0.00	0.00	2259.5	2259.5

SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTA GENERAL:

– TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS

GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISIÓN NACIONAL DE RIEGO

CONSULTOR: GCF Ingenieros Ltda.

Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo

Escala: Indicadas

Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956

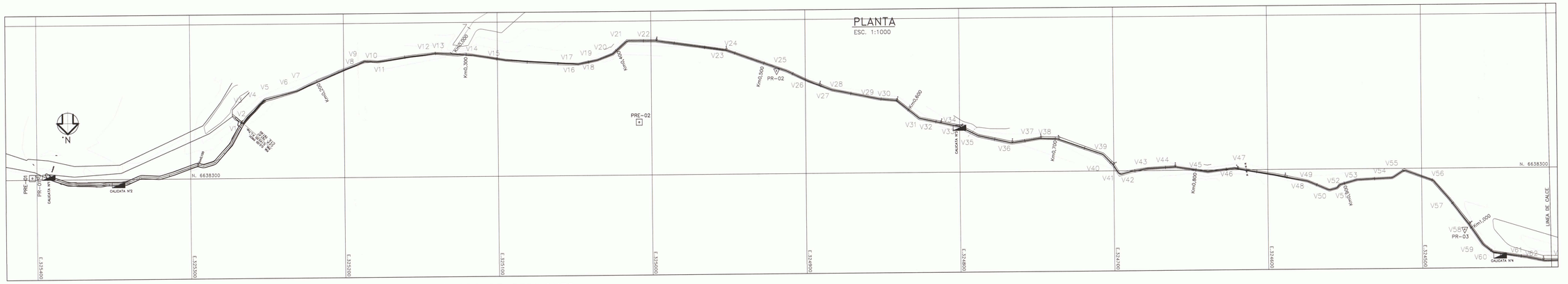
Título Plano: CANAL TRANQUILLA PLANTA, PERFIL LONGITUDINAL Y DETALLES

Fecha: FEBRERO 2010

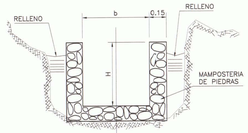
Lámina: 048-2/2

CANAL BAJO FUNDINA

PLANTA
ESC. 1:1000



SECCION TIPO
S/E



CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
01	6638297.92	325399.31	799.23
02	6638233.28	324918.73	798.31
03	6638339.88	324472.47	797.19
04	6638329.47	324032.49	795.67
05	6638265.20	323603.53	793.36

CUADRO DE PR. ESTACION

PRE N°	NORTE	ESTE	COTA
01	6638298.74	325402.93	799.82
02	6638265.73	325008.17	813.97
03	6638331.75	323928.43	814.47
04	6638350.61	323629.17	824.07
05	6638246.11	323511.44	794.01

CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
0.143	0.428	0.55	0.50	
0.428	0.623	0.55	0.50	
0.623	0.703	0.55	0.55	
0.703	0.996	0.55	0.45	
0.996	1.375	0.55	0.45	

PERFIL LONGITUDINAL
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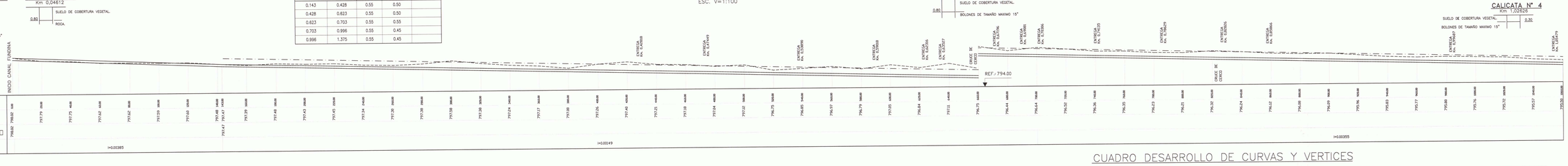


PLANTA
ESC. 1:1000

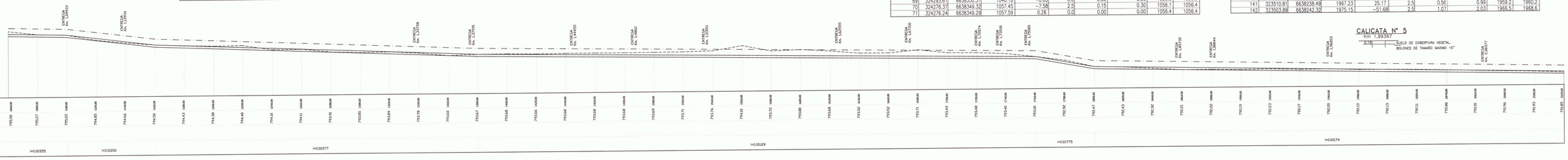
CUADRO DE ENTREGAS PREDIALES
CANAL BAJO FUNDINA

Km.	DIMENSIONES CANAL B(m)	DIMENSIONES CANAL H(m)	DIAMETRO ENTREGA (mm.)	GRADA a(m)	GRADA l(m)	COTAS FONDO (m.s.n.m.) EXIST.	COTAS FONDO (m.s.n.m.) PROY.
0,4281800	0.55	0.50	75	0.15	0.40		797.05
0,4744900	0.55	0.50	75	0.15	0.40		796.98
0,5389000	0.55	0.50	75	0.15	0.40		796.88
0,5901800	0.55	0.50	75	0.15	0.40		796.80
0,6231600	0.55	0.50	75	0.15	0.40		796.75
0,6352700	0.55	0.55	75	0.15	0.40		796.74
0,6719600	0.55	0.55	75	0.15	0.40		796.78
0,6908100	0.55	0.55	75	0.15	0.40		796.65
0,7030600	0.55	0.45	75	0.10	0.40		796.63
0,7413500	0.55	0.45	75	0.10	0.40		796.49
0,7862900	0.55	0.45	75	0.10	0.40		796.33
0,8282600	0.55	0.45	75	0.10	0.40		796.18
0,8586600	0.55	0.45	75	0.10	0.40		796.08
0,9968700	0.55	0.45	75	0.10	0.40		795.59
1,0547900	0.55	0.45	75	0.10	0.40		795.38
1,0993300	0.55	0.45	75	0.10	0.40		795.22
1,1393400	0.55	0.45	75	0.05	0.40		794.75
1,3375800	0.55	0.45	75	0.05	0.40		793.83
1,3759100	0.55	0.45	75	0.05	0.40		793.69
1,4445500	0.55	0.50	75	0.15	0.40		793.59
1,4862000	0.55	0.50	75	0.15	0.40		793.53
1,5039600	0.55	0.50	75	0.15	0.40		793.51
1,5351100	0.55	0.50	75	0.15	0.40		793.47
1,6255500	0.55	0.50	75	0.15	0.40		793.35
1,6733100	0.55	0.50	75	0.15	0.40		793.29
1,7229400	0.55	0.50	75	0.15	0.40		793.23
1,7351800	0.55	0.50	75	0.15	0.40		793.21
1,7550500	0.55	0.50	75	0.15	0.40		793.19
1,8573200	0.55	0.50	75	0.15	0.40		792.37
1,8804400	0.55	0.50	75	0.15	0.40		792.33
1,9402900	0.55	0.50	75	0.15	0.40		792.23
1,9605300	0.55	0.50	75	0.15	0.40		792.19
2,0657700	0.55	0.50	75	0.15	0.40		792.01
2,1021000	0.55	0.50	75	0.15	0.40		791.95

CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
0.703	0.996	0.55	0.45	
0.996	1.375	0.55	0.45	
1.375	1.720	0.55	0.50	
1.720	2.129	0.55	0.50	

PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100



CUADRO DESARROLLO DE CURVAS Y VERTICES

CANAL BAJO FUNDINA									
VERTICE N°	COORDENADAS UBICACION ESTE (m)	COORDENADAS UBICACION NORTE (m)	VERTICE (m)	ANGULO (s)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
1	325265.69	6638264.17	0		0.0			0.0	0.0
2	325262.93	6638260.45	4.63	10.96	2.5	0.22	0.43	4.4	4.8
3	325262.78	6638260.31	4.84	0.20	0.0	0.00	0.00	4.8	4.8
4	325250.86	6638249.07	21.20	40.98	2.0	0.67	1.29	20.5	21.8
5	325250.43	6638249.02	21.66	−9.55	0.0	0.00	0.00	21.6	21.6
6	325230.63	6638243.68	42.17	−12.44	2.5	0.25	0.49	41.9	42.4
7	325230.41	6638243.57	42.41	3.47	0.0	0.00	0.00	42.4	42.4
8	325186.43	6638224.75	90.25	25.57	2.0	0.41	0.80	89.8	90.6
9	325186.01	6638224.75	90.67	2.22	0.0	0.00	0.00	90.6	90.6
10	325177.76	6638225.01	98.92	−7.99	5.0	0.31	0.63	98.5	99.2
11	325177.44	6638224.98	99.24	−2.63	0.0	0.00	0.00	99.2	99.2
12	325140.16	6638219.93	136.86	14.61	2.0	0.23	0.46	136.6	137.0
13	325139.90	6638219.90	137.08	−2.65	0.0	0.00	0.00	137.0	137.0
14	325115.87	6638221.23	161.19	6.95	0.0	0.00	0.00	161.1	161.1
15	325094.55	6638224.73	182.79	−6.56	0.0	0.00	0.00	182.7	182.7
16	325047.35	6638227.68	230.08	−19.94	2.0	0.32	0.63	229.7	230.3
17	325047.08	6638227.61	230.36	2.95	0.0	0.00	0.00	230.3	230.3
18	325034.89	6638225.08	242.81	−10.36	2.5	0.20	0.41	242.5	242.9
19	325034.70	6638225.01	243.02	0.00	0.0	0.00	0.00	242.9	242.9
20	325024.93	6638221.25	253.48	−23.42	2.5	0.47	0.92	253.0	253.9
21	325015.60	6638212.81	266.07	47.41	2.5	0.98	1.86	265.0	266.9
22	324996.76	6638212.59	284.90	8.46	0.0	0.00	0.00	284.7	284.7
23	324951.19	6638219.53	330.94	12.09	2.5	0.24	0.47	330.5	331.0
24	324950.94	6638219.62	331.20	0.54	0.0	0.00	0.00	331.0	331.0
25	324912.09	6638233.40	372.43	6.82	0.0	0.00	0.00	372.3	372.3
26	324898.10	6638240.12	387.95	−5.54	0.0	0.00	0.00	387.8	387.8
27	324882.87	6638245.88	404.24	−9.40	2.5	0.18	0.37	403.9	404.2
28	324882.65	6638245.93	404.46	−0.99	0.0	0.00	0.00	404.3	404.3
29	324851.71	6638252.13	436.01	−6.51	0.0	0.00	0.00	435.8	435.8
30	324840.94	6638253.17	446.84	36.48	2.5	0.74	1.43	445.9	447.4
31	324826.15	6638264.85	465.69	−29.43	2.5	0.59	1.16	464.9	466.0
32	324825.57	6638264.97	466.28	0.29	0.0	0.00	0.00	466.0	466.0
33	324800.14	6638270.42	492.28	16.08	2.5	0.32	0.63	491.7	492.4
34	324799.87	6638270.56	492.59	−0.30	0.0	0.00	0.00	492.4	492.4
35	324787.91	6638276.46	505.92	−15.20	2.5	0.30	0.60	505.4	506.0
36	324766.16	6638281.33	528.21	−24.01	2.5	0.48	0.94	527.5	528.4
37	324747.58	6638278.45	546.62	12.14	2.5	0.24	0.48	546.1	546.6
38	324736.61	6638278.83	558.00	19.42	2.5	0.38	0.76	557.4	558.1
39	324707.04	6638289.25	589.34	29.31	2.5	0.59	1.15	588.5	589.6
40	324700.58	6638295.89	598.61	12.67	0.0	0.00	0.00	598.3	598.3
41	324696.29	6638302.54	606.52	−80.37	2.5	1.83	3.16	604.4	607.6
42	324688.70	6638300.48	614.38	6.32	0.0	0.00	0.00	613.6	613.6
43	324678.18	6638298.73	625.05	6.98	0.0	0.00	0.00	624.3	624.3
44	324660.18	6638297.73	643.10	13.46	2.5	0.27	0.53	642.7	642.6
45	324638.81	6638301.10	664.72	−17.88	2.5	0.35	0.70	663.6	664.3
46	324621.39	6638298.92	682.27	18.46	2.5	0.37	0.73	681.1	681.8
47	324621.03	6638298.98	682.64	1.21	0.0	0.00	0.00	681.8	681.8
48	324574.21	6638307.72	730.26	15.06	2.0	0.24	0.47	729.2	729.7
49	324573.99	6638307.82	730.51	−1.42	0.0	0.00	0.00	729.7	729.7
50	324560.01	6638313.71	745.67	−41.87	2.5	0.85	1.64	744.0	745.7
51	324554.94	6638312.36	750.92	−39.32	2.5	0.80	1.54	749.3	750.8
52	324553.11	6638310.17	753.78	38.81	2.5	0.79	1.52	752.1	753.6
53	324541.89	6638307.10	765.41	13.93	2.5	0.27	0.55	764.2	764.7
54	324519.07	6638306.01	788.26	−33.16	2.5	0.67	1.30	786.6	787.9
55	324511.37	6638301.09	797.39	58.53	2.5	1.24	2.38	795.0	797.5
56	324336.84	6638307.96	817.37	32.07	2.5	0.64	1.26	815.6	816.8
57	324482.33	6638319.77	833.03	4.25	0.0	0.00	0.00	831.8	831.8
58	324469.73	6638336.36	853.86	2.65	0.0	0.00	0.00	852.7	852.7
59	324460.39	6638349.77	870.21	−19.56	2.5	0.39	0.77	868.6	869.4
60	324453.89	6638354.78	878.41	−32.14	2.5	0.64	1.26	876.6	877.8
61	324431.73	6638358.14	900.82	3.68	0.0	0.00	0.00	899.6	899.6
62	324421.00	6638360.41	911.79	−14.20	2.5	0.28	0.56	910.3	910.8
63	324402.44	6638360.14	930.35	−6.94	0.0	0.00	0.00	929.1	929.1
64	324348.74	6638353.46	984.47	−9.76	2.5	0.19	0.38	983.0	983.4
65	324336.84	6638350.07	996.84	13.90	2.5	0.27	0.55	995.3	995.9
66	324315.96	6638348.84	1017.76	5.19	0.0	0.00	0.00	1016.5	1016.5
67	324302.38	6638349.15	1031.34	7.20	2.5	0.14	0.28	1030.0	1030.3
68	324293.84	6638350.32	1039.85	−11.67	2.5	0.23	0.46	1038.5	1039.0
69	324293.61	6638350.31	1040.18	−0.63	0.0	0.00	0.00	1039.0	1039.0
70	324276.37	6638349.32	1057.45	−7.58	2.5	0.15	0.30	1056.1	1056.4
71	324276.24	6638349.29	1057.59	0.26	0.0	0.00	0.00	1056.4	1056.4

CANAL BAJO FUNDINA									
VERTICE N°	COORDENADAS UBICACION ESTE (m)	COORDENADAS UBICACION NORTE (m)	VERTICE (m)	ANGULO (s)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
72	324250.60	6638344.83	1083.62	−8.90	0.0	0.00	0.00	1082.4	1082.4
73	324243.79	6638342.62	1090.81	−27.01	2.5	0.54	1.06	1089.0	1090.1
74	324241.81	6638340.86	1093.43	14.39	2.5	0.28	0.56	1091.9	1092.5
75	324236.67	6638337.98	1099.32	19.36	2.5	0.38	0.76	1097.7	1098.4
76	324236.29	6638337.90	1099.71	0.76	0.0	0.00	0.00	1098.5	1098.5
77	324210.02	6638332.73	1126.51	−3.16	0.0	0.00	0.00	1125.3	1125.3
78	324199.58	6638330.13	1137.24	5.09	0.0	0.00	0.00	1136.0	1136.0
79	324192.78	6638329.00	1144.14	21.61	2.5	0.43	0.85	1142.5	1143.3
80	324186.43	6638330.13	1150.58	−11.60	2.5	0.23	0.46	1149.1	1149.5
81	324168.41	6638330.00	1168.61	8.79	0.0	0.00	0.00	1167.3	1167.3
82	324154.79	6638331.80	1182.34	−5.30	0.0	0.00	0.00	1181.1	1181.1
83	324116.97	6638333.61	1220.21	−2.69	0.0	0.00	0.00	1218.9	1218.9
84	324104.63	6638333.68	1232.55	10.63	2.5	0.21	0.42	1231.1	1231.5
85	324101.33	6638334.26	1235.90	−15.63	2.5	0.31	0.61	1234.9	1234.9
86	324101.02	6638334.26	1236.20	−1.07	0.0	0.00	0.00	1234.9	1234.9
87	324038.34	6638328.61	1299.14	−11.29	2.5	0.22	0.44	1297.6	1298.1
88	324038.13	6638328.55	1299.35	0.23	0.0	0.00	0.00	1298.1	1298.1
89	324031.80	6638328.58	1336.98	8.48	0.0	0.00	0.00	1335.7	1335.7
90	323996.09	6638318.01	1342.75	−16.64	2.5	0.33	0.63	1341.1	1341.8
91	323995.78	6638317.89	1343.07	1.21	0.0	0.00	0.00	1341.8	1341.8
92	323971.00	6638308.20	1369.68	−8.98	2.5	0.18	0.35	1368.2	1368.6
93	323970.82	6638308.11	1369.88	−0.54	0.0	0.00	0.00	1368.6	1368.6
94	323953.79	6638298.28	1389.58	14.83	2.5	0.29	0.58	1388.0	1388.6
95	323951.62	6638297.65	1391.80	−18.92	2.5	0.37	0.74	1390.1	1390.9
96	323945.72	6638293.73	1398.89	1.44	0.0	0.00	0.00	1397.6	1397.6
97	323938.88	6638289.41	1406.97	5.39	0.0	0.00	0.00	1405.7	1405.7
98	323931.11	6638285.38	1415.73	61.57	2.5	1.31	2.42	1413.1	1415.6
99	323914.00	6638294.46	1435.10	−52.21	2.5	1.09	2.05	1432.5	1434.6
100	323905.26	6638301.45	1444.35	−79.27	2.5	1.79	3.11	1440.9	1444.1
101	323905.37	6638274.15	1461.65	51.19	2.5	1.06	2.01	1458.5	1460.5
102	323900.98	6638269.87	1467.78	−53.29	2.5	1.11	2.09	1464.5	1466.6
103	323901.58	6638254.42	1483.24	50.83	2.5	1.05	2.00	1479.9	1481.8
104	323897.42	6638250.03	1489.29	39.33	2.5	0.80	1.54	1486.0	1487.6
105	323891.63	6638248.90	1495.19	9.78	0.0	0.00	0.00	1492.7	1492.7
106	323884.49	6638248.61	1502.33	−4.11	0.0	0.00	0.00	1499.8	1499.8
107	323865.84	6638246.65	1521.09	33.26	2.5	0.67	1.31	1517.9	1519.2
108	323853.32	6638252.21	1534.78	27.48	2.5	0.55	1.08	1531.7	1532.8
109	323848.58	6638257.60	1541.97	−66.91	2.5	1.45	2.93	1538.0	1540.6
110	323838.36	6638255.10	1554.44	−56.00	2.5	1.18	2.20	1550.4	1552.6
111	323832.49	6638247.84	1562.66	8.05	0.0	0.00	0.00	1559.7	1559.7
112	323822.85	6638234.23	1579.35	63.39	2.5	1.36	2.49	1575.0	1577.5
113	323821.49	6638234.28	1580.71	−1.53	0.0	0.00	0.00	1577.5	1577.5
114	323812.58	6638234.43	1589.62	−27.80	2.5	0.55	1.09	1585.9	1587.0
115	323812.10	6638234.22	1590.14	0.85	0.0	0.00	0.00	1586.9	1586.9
116	323809.29	6638233.01	1593.21	17.56	2.5	0.35	0.69	1589.6	1590.3
117	323789.24	6638230.38	1613.43	−17.61	2.5	0.35	0.69	1609.9	1610.5
118	323775.28	6638224.36	1628.63	−4.23	0.0	0.00	0.00	1625.4	1625.4
119	323766.75	6638219.99	1638.22	40.47	2.5	0.80	1.59	1634.2	1635.8
120	323760.43	6638221.02	1644.62	8.46	0.0	0.00	0.00	1641.3	1641.3
121	323748.41	6638224.67	1657.18	8.38	0.0	0.00	0.00	1653.9	1653.9
122	323740.72	6638228.17	1665.63	4.91	0.0	0.00	0.00	1662.3	1662.3
123	323725.68	6638236.46	1682.80	−3.89	0.0	0.00	0.00	1679.5	1679.5
124	323706.81	6638245.41	1703.68	−5.05	0.0	0.00	0.00	1700.4	1700.4
125	323690.73	6638251.53	1720.90	5.17	0.0	0.00	0.00	1717.6	1717.6
126	323683.29	6638255.06	1729.13	−13.50	2.5	0.27	0.53	1725.0	1726.1
127	323667.59	6638258.75	1745.26	−4.59	0.0	0.00	0.00	1742.0	1742.0
128	323632.09	6638264.45	1781.21	−11.41	2.5	0.22	0.45	1777.7	1778.1
129	323616.71	6638264.14	1796.59	−5.35	0.0	0.00	0.00	1793.3	1793.3
130	323603.70	6638262.78	1809.68	8.44	0.0	0.00	0.00	1806.4	1806.4
131	323592.20	6638263.11	1821.18	46.86	2.5	0.96	1.84	1816.9	1818.8
132	323575.93	6638278.72	1843.73	−20.78	2.5	0.41	0.82	1839.9	1840.8
133	323570.77	6638281.14	1849.43	−36.65	2.5	0.74	1.44	1845.3	1846.7
134	323566.67	6638280.58	1853.56	32.07	2.5	0.64	1.26	1849.5	1850.8
135	323560.36	6638283.02	1860.39	−29.81	2.5	0.60	1.17	1856.3	1857.5
136	323545.89	6638281.55	1874.87	−100.00	2.5	2.50	3.93	1868.9	1872.8
137	323550.93	6638232.09	1924.59	127.32	2.5	3.89	5.00	1916.2	1921.2
138	323524.82	6638240.99	1952.18	−48.62	2.5	1.00	1.91	1943.8	1945.8
139	323516.58	6638237.11	1961.28	47.10	2.5	0.97	1.85	1952.9	1954.7
140	323512.96	6638238.25	1965.07	−12.30	0.0	0.00	0.00	1957.6	1957.6
141	323510.81	6638238.49	1967.23	25.17	2.5	0.50	0.99	1959.2	1960.2
142	323503.88	6638242.32	1975.15	−51.68	2.5	1.07	2.03	1966.5	1968.6

DISPOSICION DE LAMINAS

SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTAS GENERALES:

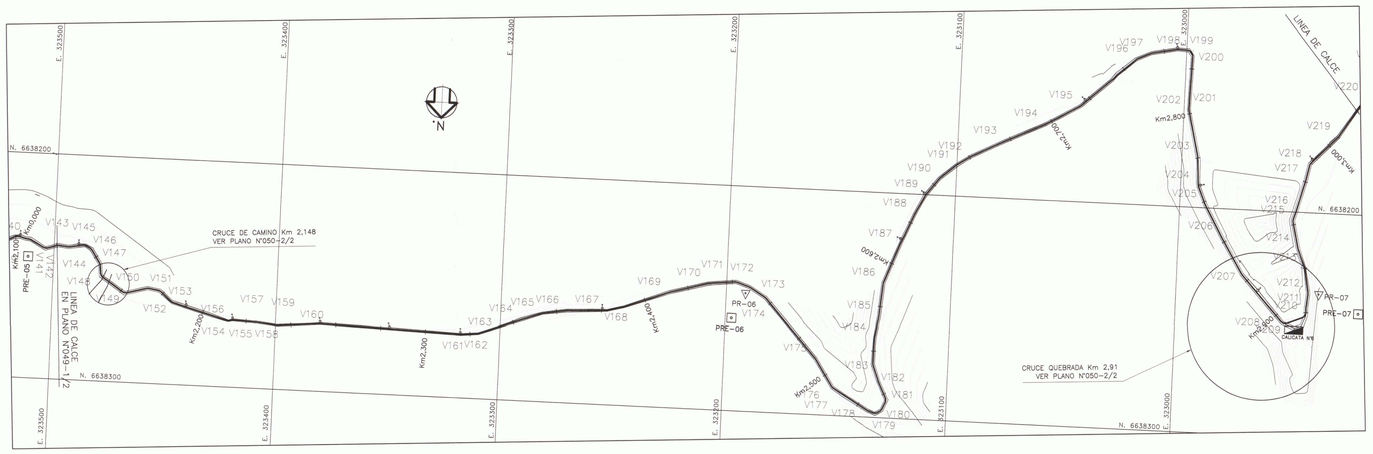
- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS
- PARA DETALLES ENTREGAS PREDIALES VER PLANO 049-2/2

GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISIÓN NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo		Título Plano: CANAL BAJO FUNDINA PLANTAS Y PERFIL LONGITUDINAL
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010	Lámina: 049-1/2

CANAL BAJO FUNDINA

PLANTA

ESC. 1:1000



CUADRO DE ENTREGAS PREDIALES
CANAL BAJO FUNDINA

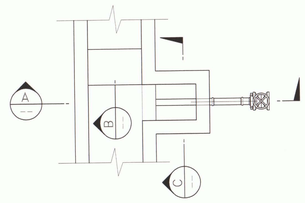
Km.	DIMENSIONES CANAL B(m)	DIMENSIONES CANAL H(m)	DIAMETRO ENTREGA (mm.)	GRADA a(m)	GRADA l(m)	COTAS FONDO (m.s.n.m.) EXIST.	COTAS FONDO (m.s.n.m.) PROY.
2,1021000	0.55	0.50	75	0.15	0.40		791.95
2,1296000	0.55	0.50	75	0.15	0.40		791.90
2,1924100	0.55	0.50	75	0.15	0.40		791.79
2,2531900	0.55	0.50	75	0.15	0.40		791.69
2,2531900	0.55	0.50	75	0.15	0.40		791.69
2,2841200	0.55	0.50	75	0.15	0.40		791.64
2,3156900	0.55	0.50	75	0.15	0.40		791.59
2,3804700	0.55	0.50	75	0.15	0.40		791.48
2,6117600	0.55	0.50	75	0.15	0.40		791.10
2,6364900	0.55	0.50	75	0.15	0.40		791.06
2,7179200	0.55	0.50	75	0.15	0.40		790.92
2,7662600	0.55	0.50	75	0.15	0.40		790.84
2,8318800	0.55	0.50	75	0.15	0.40		790.74
2,8864900	0.55	0.50	75	0.15	0.40		790.65
2,9903200	0.55	0.50	75	0.05	0.40		790.09
3,1292800	0.55	0.50	75	0.05	0.40		789.10
3,5911700	0.55	0.50	75	0.05	0.40		750.51

CUADRO DE SECCIONES

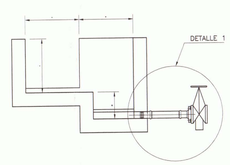
TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
1.720	2.129	0.55	0.50	
2.129	2.766	0.55	0.50	
2.766	3.500	0.55	0.50	

DETALLE DE ENTREGAS PREDIALES

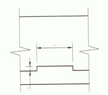
PLANTA
ESC. 1:25



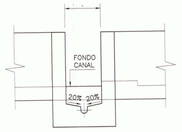
SECCION A
ESC.1:25



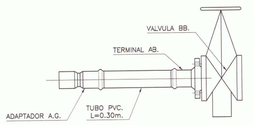
SECCION B
ESC.1:25



SECCION C
ESC.1:25

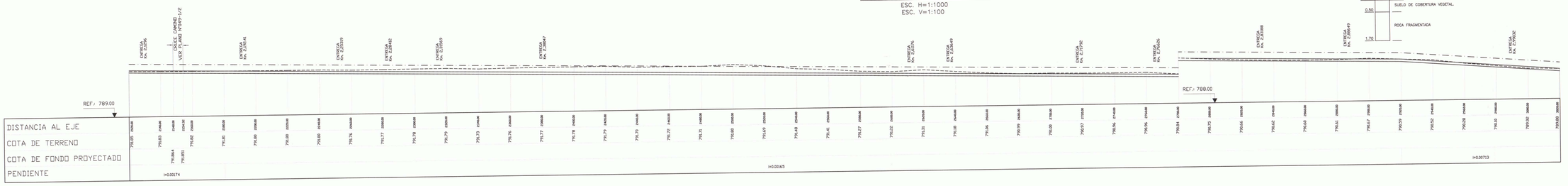


DETALLE 1
ESC. 1:10



PERFIL LONGITUDINAL

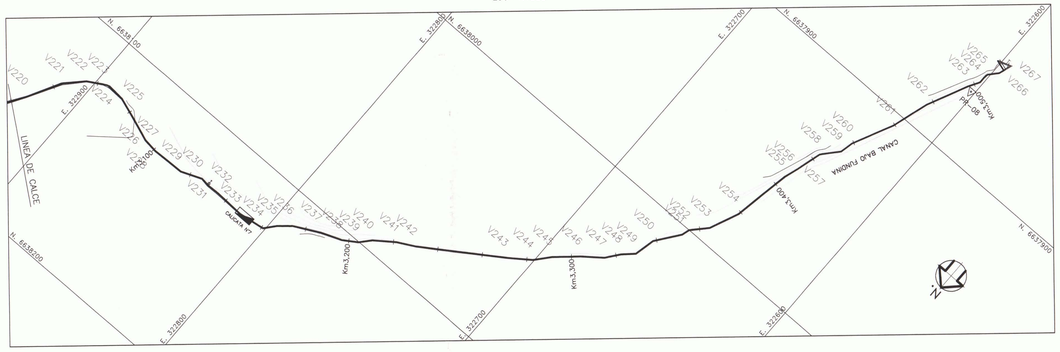
ESC. H=1:1000
ESC. V=1:100



CALICATA N° 6
Km 2,90877

PLANTA

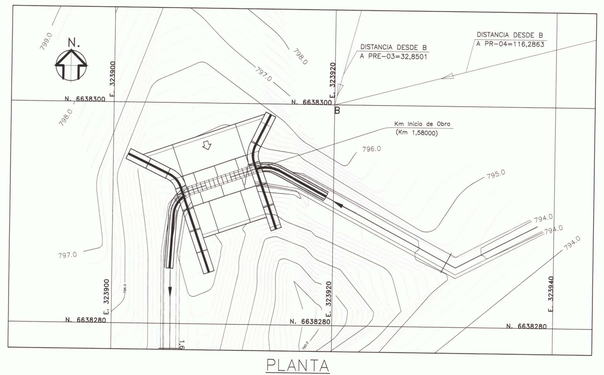
ESC. 1:1000



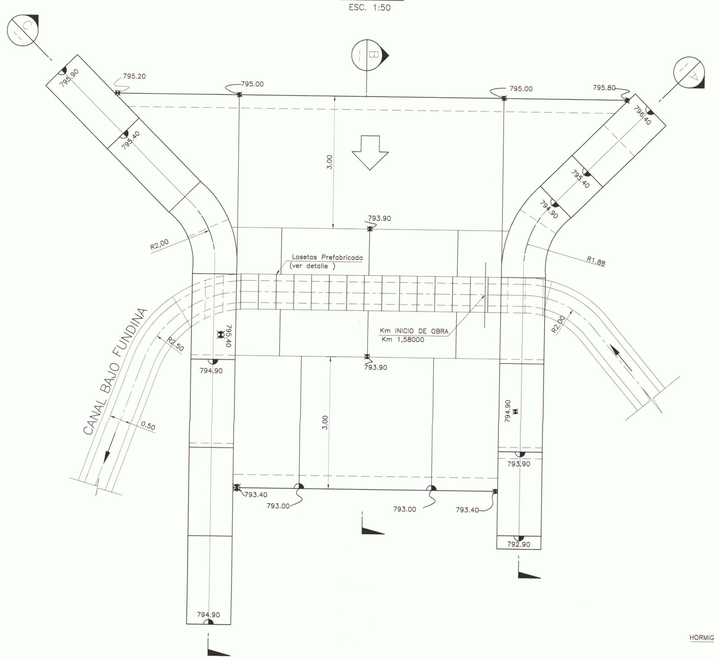
CANAL BAJO FUNDINA

QUEBRADA Km 1,580

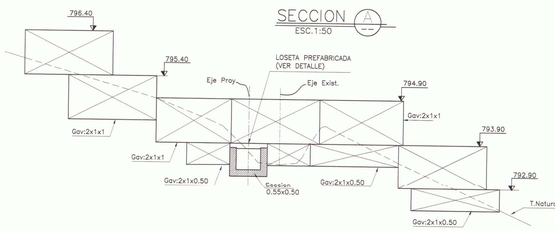
PLANTA GENERAL
ESC. 1:200



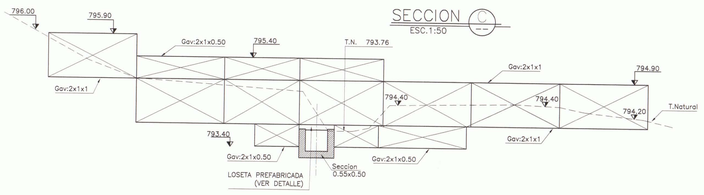
PLANTA
ESC. 1:50



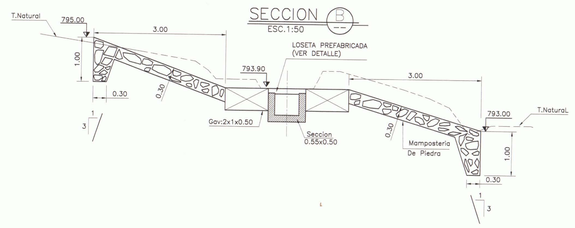
SECCION A
ESC.1:50



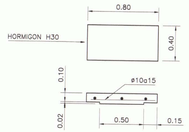
SECCION C
ESC.1:50



SECCION B
ESC.1:50



DETALLE LOSETAS
ESC. 1:25



CUADRO DE PR.

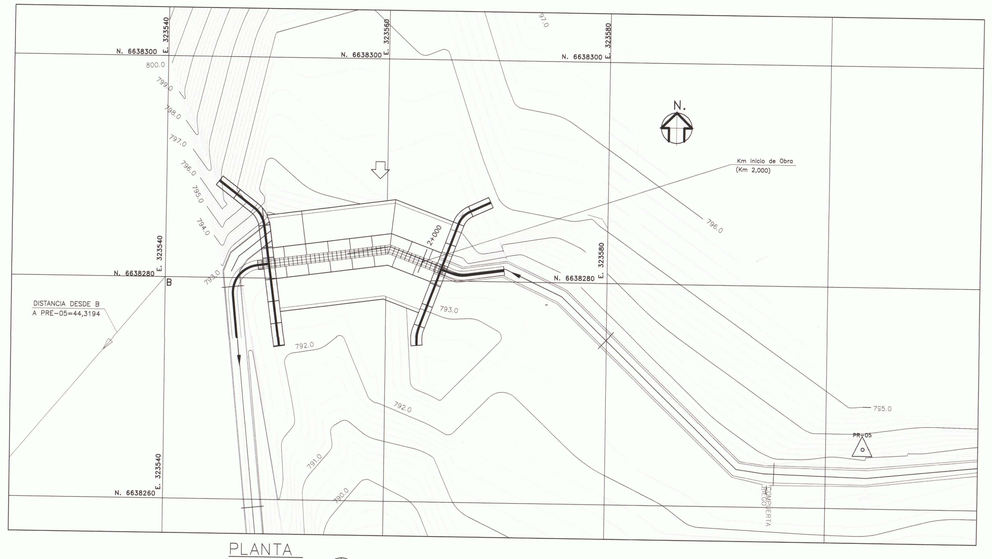
PR N°	NORTE	ESTE	COTA
04	6638329.47	324032.49	795.67
05	6638265.20	323603.53	793.36

CUADRO DE PR. ESTACION

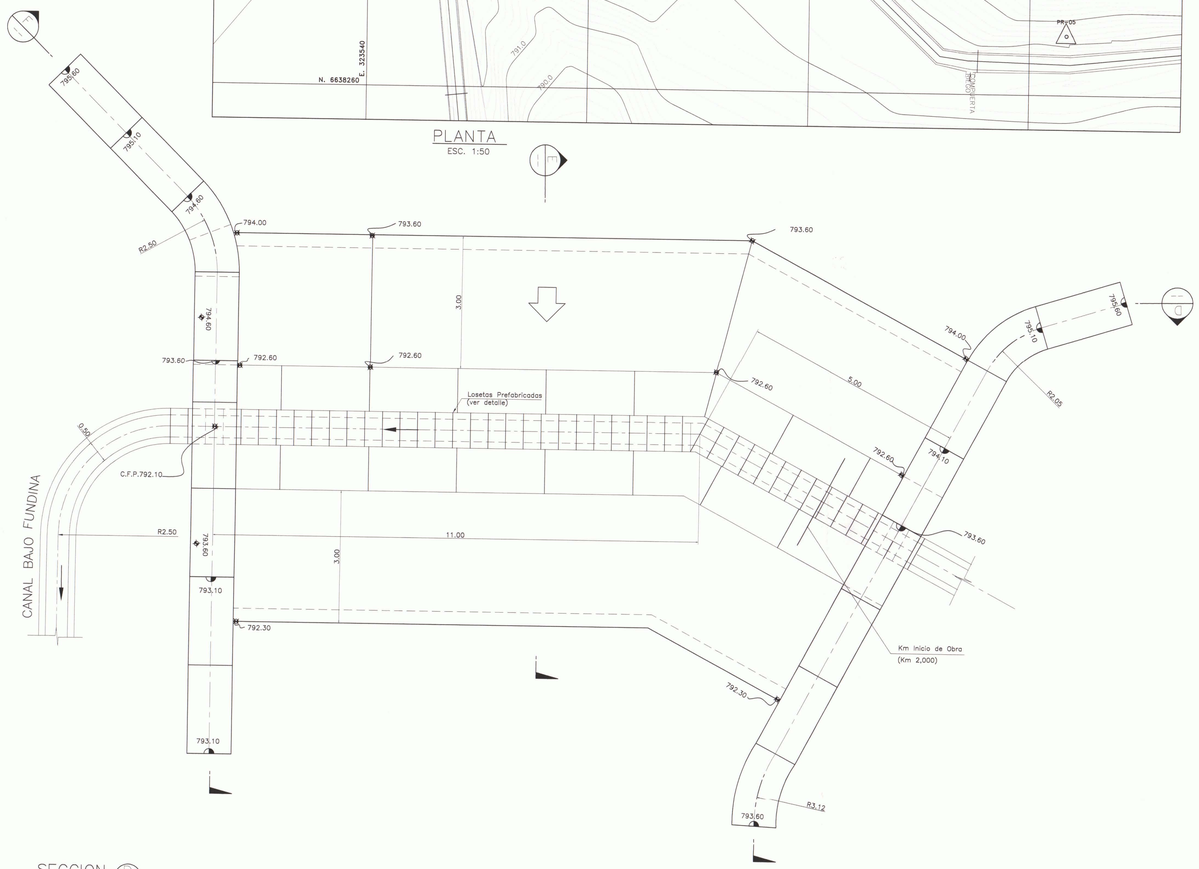
PRE N°	NORTE	ESTE	COTA
03	6638331,75	323928,43	824,07
05	6638246,11	323511,44	794,01

CRUCE QUEBRADA Km 2,000

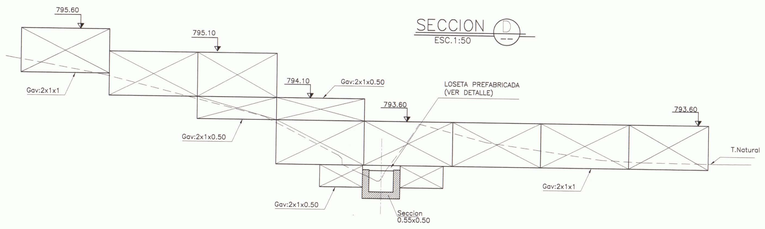
PLANTA GENERAL
ESC. 1:200



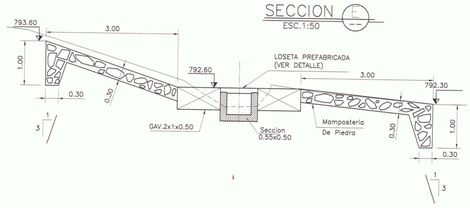
PLANTA
ESC. 1:50



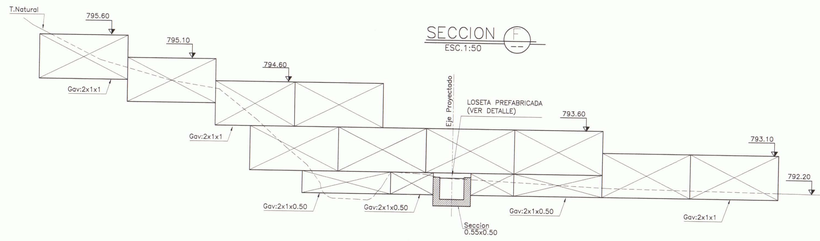
SECCION D
ESC.1:50



SECCION E
ESC.1:50



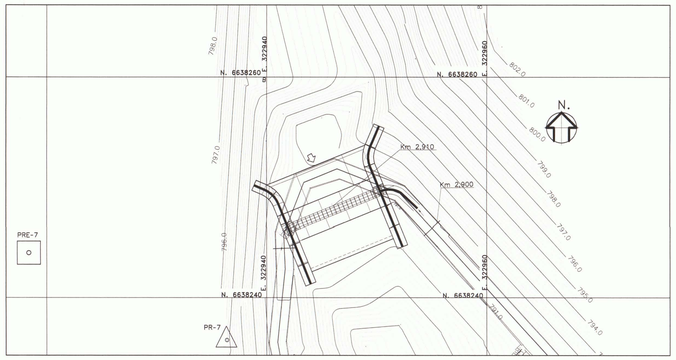
SECCION F
ESC.1:50



GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISIÓN NACIONAL DE RIEGO	Nombre Estudio Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo		Título Plano CANAL BAJO FUNDINA CRUCE QUEBRADAS PLANTAS Y SECCIONES
CONSULTOR GCF Ingenieros Ltda.	Escala Indicadas	Proyección Cartográfica UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha FEBRERO 2010
			Lámina: 050-1/2

CANAL BAJO FUNDINA
CRUCE QUEBRADA Km 2,91000

PLANTA GENERAL
ESC. 1:200



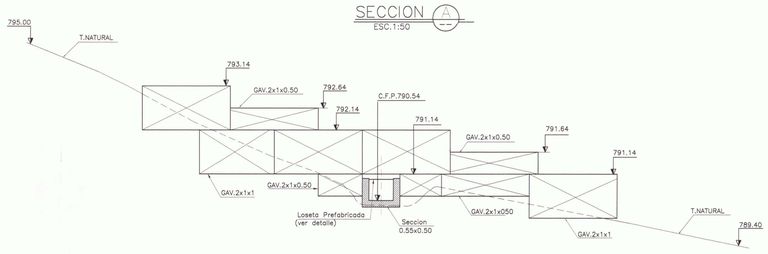
CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
07	6638236.13	322936.38	795.21
08	6637871.52	322601.49	788.13
09	6637591.56	322699.04	750.02

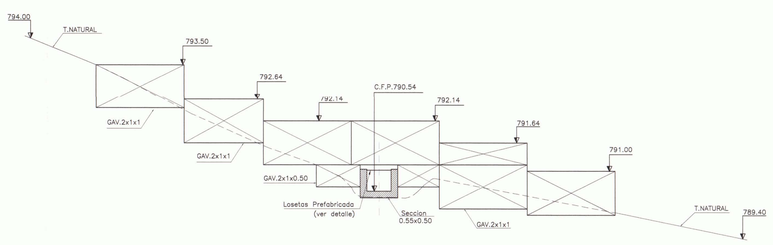
CUADRO DE PR. ESTACION

PRE N°	NORTE	ESTE	COTA
07	6638244.07	322918.37	807.72

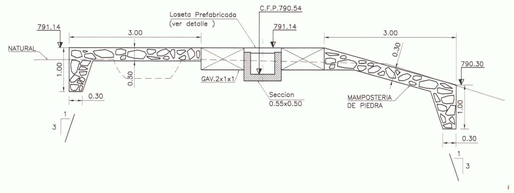
SECCION A
ESC.1:50



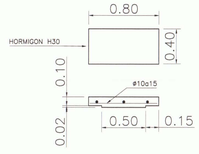
SECCION B
ESC.1:50



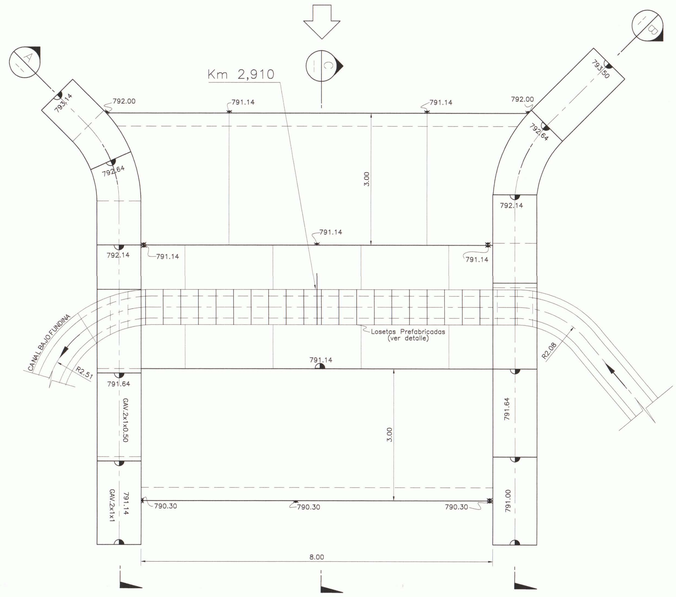
SECCION C
ESC.1:50



DETALLE LOSETAS
ESC. 1:25

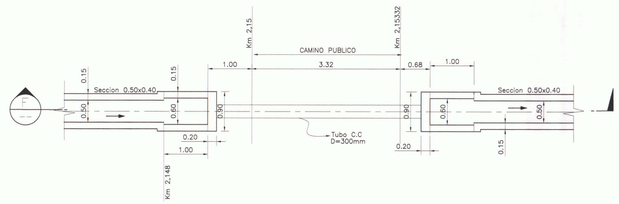


PLANTA
ESC. 1:50

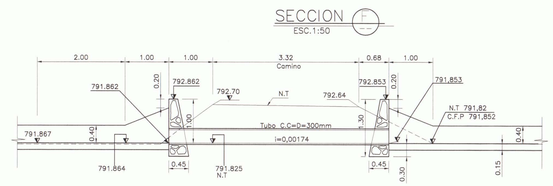


CRUCE CAMINO Km 2,15
CANAL BAJO FUNDINA

PLANTA
ESC. 1:50



SECCION D
ESC.1:50

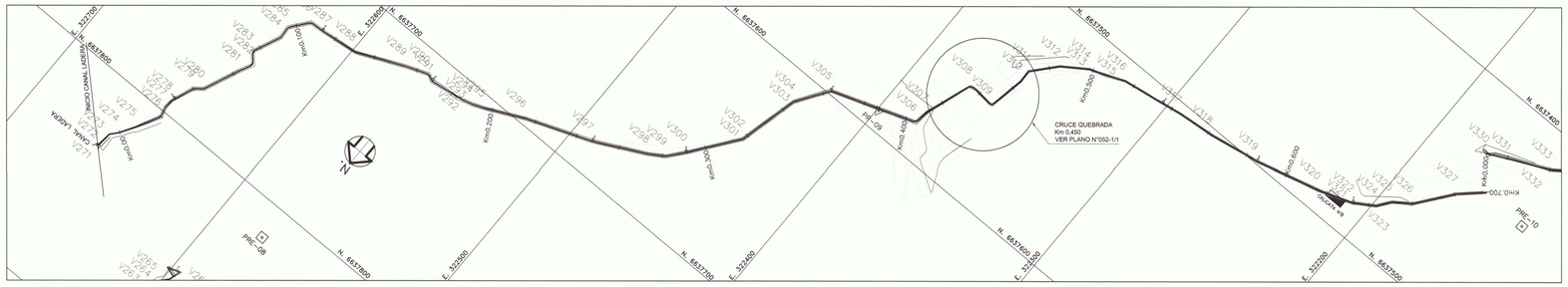


GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISION NACIONAL DE RIEGO	Nombre Estudio Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo	Titulo Plano CANAL BAJO FUNDINA CRUCE QUEBRADAS PLANTAS Y SECCIONES	
CONSULTOR GCF Ingenieros Ltda.	Escala Indicadas	Proyección Cartográfica UTM (Universal Transversal de mercatol Huso 19 Sur Datum PSAD 1956	Fecha FEBRERO 2010
			Lámina: 050-2/2

CANAL LADERA

PLANTA

ESC. 1:1000

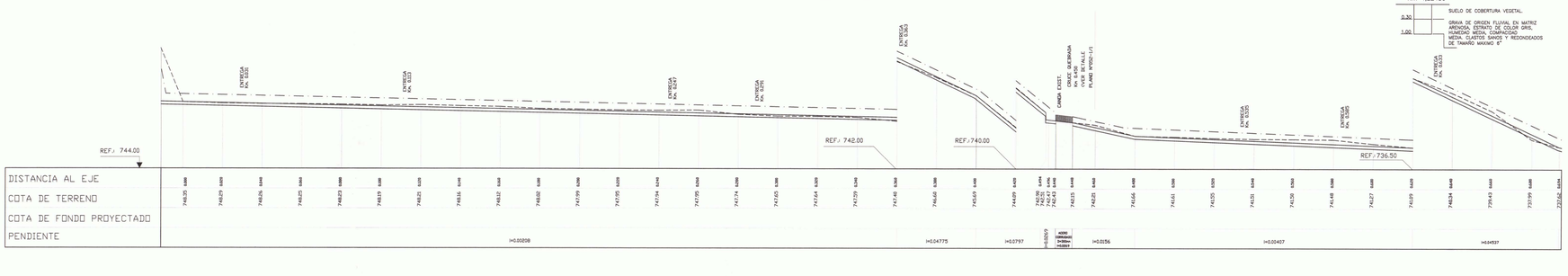


CUADRO DE SECCIONES

TRAMO		SECCION		OBS.
(Km)		b (m)	H (m)	
0.000	0.125	0.5000	0.45	
0.125	0.375	0.5000	0.45	
0.375	0.597	0.5000	0.45	
0.597	0.706	0.5000	0.45	

PERFIL LONGITUDINAL

ESC. H=1:1000
ESC. V=1:100



CALICATA N° 8

Km 4.22486

CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
09	6637591,56	322399,04	750,02

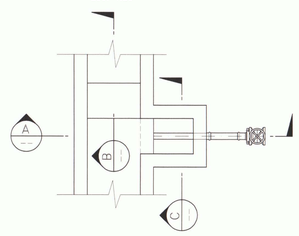
CUADRO DE PR. ESTACION

PRE N°	NORTE	ESTE	COTA
08	6637815,10	322577,24	785,40
10	6637444,25	322141,47	747,80

DETALLE ENTREGAS PREDIALES

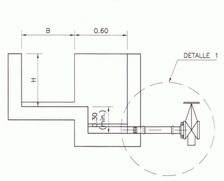
PLANTA

ESC. 1:25



SECCION A

ESC.1:25

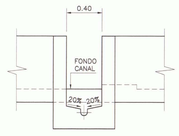


SECCION B

ESC.1:25

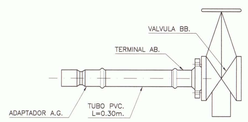
SECCION C

ESC.1:25



DETALLE 1

ESC. 1:10



SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS

CUADRO DESARROLLO DE CURVAS Y VERTICES

CANAL BAJO FUNDINA

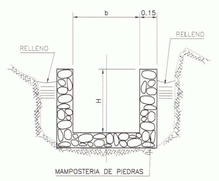
VERTICE	COORDENADAS UBICACION		VERTICE	ANGULO	RADIO	TANGENTE	DESARROLLO	INICIO CURVA	F.N CURVA
N°	ESTE (m)	NORTE (m)	(m)	(s)	(m)	(m)	(m)	(m)	(m)
267	322596.84	6637854.71	3374.48	-99.89	0.0	0.00	0.00	3363.3	3363.3
268	322601.57	6637853.21	3379.44	11.99	2.5	0.24	0.47	3368.0	3368.5
269	322614.52	6637846.19	3394.18	-9.03	0.0	0.00	0.00	3383.0	3383.0
270	322632.34	6637839.59	3413.18	-2.15	0.0	0.00	0.00	3402.0	3402.0
271	322659.72	6637830.48	3442.03	-14.91	0.0	0.00	0.00	3430.9	3430.9
272	322660.91	6637830.38	3443.23	100.00	0.0	0.00	0.00	3432.1	3432.1
273	322660.33	6637823.71	3449.92	40.26	2.0	0.65	1.26	3438.1	3439.4
274	322657.55	6637820.53	3454.15	-10.70	2.0	0.17	0.34	3442.8	3443.1
275	322653.27	6637811.57	3462.32	-4.05	0.0	0.00	0.00	3451.1	3451.1
276	322647.50	6637802.67	3474.65	-46.26	2.0	0.76	1.45	3462.7	3464.1
277	322648.65	6637797.94	3479.52	20.50	2.0	0.32	0.64	3467.9	3468.6
278	322648.31	6637793.90	3483.57	18.00	2.0	0.28	0.57	3472.0	3472.6
279	322644.25	6637783.29	3494.94	33.52	2.0	0.54	1.05	3483.1	3484.2
280	322640.59	6637780.34	3499.64	-31.10	2.0	0.50	0.98	3487.8	3488.8
281	322633.58	6637763.92	3517.51	4.64	0.0	0.00	0.00	3506.2	3506.2
282	322630.34	6637757.63	3524.57	-78.18	2.5	1.76	3.07	3511.5	3514.5
283	322634.57	6637753.10	3530.77	74.52	2.5	1.66	2.93	3517.3	3520.2
284	322628.74	6637740.00	3545.11	-31.13	2.5	0.62	1.22	3532.3	3533.5
285	322629.13	6637734.42	3550.70	47.09	2.5	0.97	1.85	3537.5	3539.4
286	322622.43	6637725.96	3561.50	53.87	2.5	1.13	2.12	3548.1	3550.2
287	322618.04	6637725.61	3567.90	-4.26	0.0	0.00	0.00	3555.5	3555.5
288	322598.49	6637723.46	3585.58	-18.97	2.5	0.38	0.76	3572.8	3573.5
289	322576.77	6637713.76	3609.37	3.44	0.0	0.00	0.00	3596.9	3596.9
290	322566.35	6637709.77	3620.53	54.91	2.5	1.15	2.16	3606.9	3609.1
291	322563.55	6637711.28	3623.71	-41.00	2.5	0.83	1.61	3610.3	3611.9
292	322546.82	6637708.80	3640.62	-8.58	2.5	0.17	0.34	3627.8	3628.2
293	322542.58	6637707.57	3645.04	5.67	2.5	0.11	0.22	3632.3	3632.5
294	322542.43	6637707.54	3645.19	-12.60	0.0	0.00	0.00	3632.6	3632.6
295	322537.12	6637705.33	3650.93	-3.70	0.0	0.00	0.00	3638.3	3638.3
296	322519.83	6637697.02	3670.12	5.20	0.0	0.00	0.00	3657.5	3657.5
297	322489.98	6637685.53	3702.10	-6.75	0.0	0.00	0.00	3689.5	3689.5
298	322466.61	6637673.56	3728.37	-6.36	0.0	0.00	0.00	3715.7	3715.7
299	322459.91	6637669.23	3736.34	-19.75	2.5	0.39	0.78	3723.3	3724.1
300	322453.97	6637661.99	3745.71	-2.85	0.0	0.00	0.00	3733.1	3733.1
301	322438.12	6637640.80	3772.17	-25.41	2.5	0.51	1.00	3759.0	3760.0
302	322438.00	6637640.31	3772.68	-0.07	0.0	0.00	0.00	3760.0	3760.0
303	322431.27	6637613.04	3800.76	22.35	2.5	0.44	0.88	3787.7	3788.5
304	322431.01	6637612.67	3801.21	0.13	0.0	0.00	0.00	3788.5	3788.5
305	322421.36	6637598.41	3818.43	40.38	2.5	0.82	1.59	3804.9	3806.5
306	322382.64	6637584.68	3859.52	-69.79	2.5	1.53	2.74	3845.3	3848.0
307	322381.71	6637577.73	3866.51	12.43	2.5	0.24	0.49	3853.2	3853.7
308	322374.13	6637555.48	3890.02	85.58	2.5	1.99	3.36	3875.0	3878.4
309	322361.22	6637556.80	3903.00	-95.11	2.0	1.85	2.99	3887.5	3890.5
310	322358.12	6637539.65	3920.42	-12.72	2.5	0.25	0.50	3905.8	3906.3
311	322358.24	6637534.02	3926.06	47.13	2.5	0.97	1.85	3910.7	3912.6
312	322348.81	6637523.26	3940.36	15.65	2.5	0.31	0.61	3925.6	3926.2
313	322337.58	6637515.48	3954.02	20.39	2.0	0.32	0.64	3939.2	3939.9
314	322337.27	6637515.39	3954.34	-6.01	0.0	0.00	0.00	3939.9	3939.9
315	322321.85	6637509.24	3970.95	14.54	2.5	0.29	0.57	3956.2	3956.8
316	322321.57	6637509.19	3971.23	-0.59	0.0	0.00	0.00	3956.8	3956.8
317	322293.11	6637504.58	4000.06	3.93	0.0	0.00	0.00	3985.6	3985.6
318	322275.96	6637502.88	4017.31	-4.44	0.0	0.00	0.00	4002.8	4002.8
319	322252.54	6637498.90	4041.06	-5.90	0.0	0.00	0.00	4026.6	4026.6
320	322222.35	6637490.82	4072.30	-5.00	0.0	0.00	0.00	4057.8	4057.8
321	322207.33	6637485.51	4088.23	-17.00	2.5	0.34	0.67	4073.4	4074.1
322	322207.06	6637485.32	4088.57	2.35	0.0	0.00	0.00	4074.1	4074.1
323	322198.11	6637479.59	4099.19	-23.18	2.5	0.46	0.91	4084.3	4085.2
324	322197.82	6637479.20	4099.68	-2.60	0.0	0.00	0.00	4085.2	4085.2
325	322193.86	6637473.73	4106.43	21.07	2.5	0.42	0.83	4091.5	4092.4
326	322186.18	6637468.32	4115.83	-19.31	2.5	0.38	0.76	4101.0	4101.7
327	322173.63	6637451.98	4136.43	10.71	2.5	0.21	0.42	4121.7	4122.1
328	322164.20	6637443.23	4149.29	-103.16	0.0	0.00	0.00	4134.8	4134.8
329	322169.31	6637438.25	4156.43	21.42	2.5	0.42	0.84	4141.5	4142.3
330	322174.03	6637428.75	4167.03	104.05	0.0	0.00	0.00	4152.5	4152.5

CUADRO DE ENTREGAS PREDIALES CANAL LADERA

Km.	DIMENSIONES CANAL		DIAMETRO ENTREGA	GRADA		COTAS FONDO (m,s,n,m,)	
	B(m)	H(m)	(mm.)	a(m)	l(m)	EXIST.	PROY.
0.031	0.50	0.45	75	0.10	0.40		748.29
0.113	0.50	0.45	75	0.10	0.40		748.11
0.247	0.50	0.45	75	0.10	0.40		748.00
0.291	0.50	0.45	75	0.10	0.40		747.83
0.363	0.50	0.45	75	0.10	0.40		747.74
0.460	0.30	0.45	75	0.10	0.40		747.45
0.535	0.50	0.45	75	0.05	0.40		741.44
0.585	0.50	0.45	75	0.05	0.40		741.23
0.633	0.30	0.45	75	0.05	0.40		740.51

SECCION TIPO

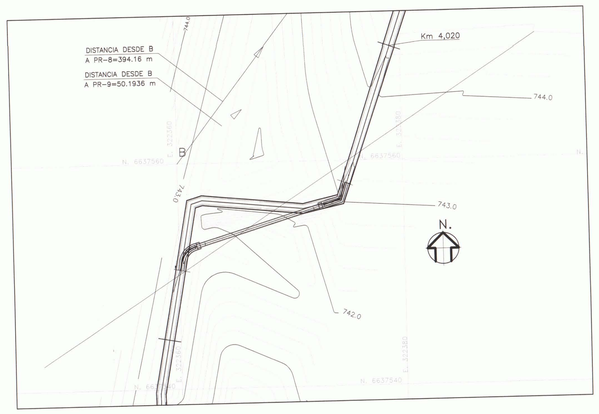
S/E



GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISION NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo	Título Plano: CANAL LADERA PLANTAS Y PERFIL LONGITUDINAL Y DETALLES	
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010
			Lámina: 051-11

CANAL LADERA
CRUCE QUEBRADA PANGUECILLO Km 0.448

PLANTA GENERAL
ESC. 1:200



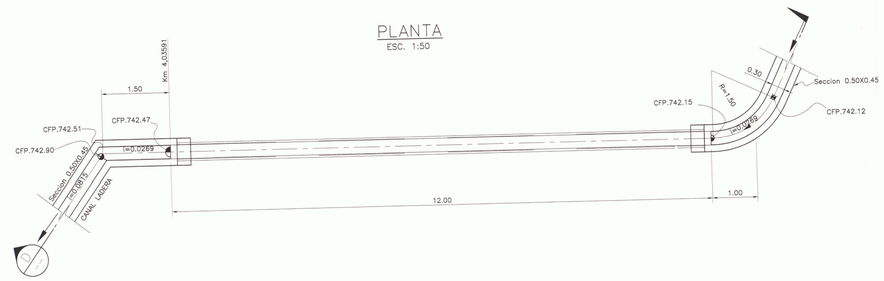
CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
07	6638236.13	322936.38	795.21
08	6637871.52	322601.49	788.13
09	6637591.56	322699.04	750.02

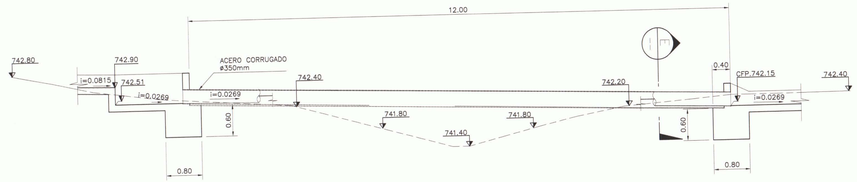
CUADRO DE PR. ESTACION

PRE N°	NORTE	ESTE	COTA
07	6638244.07	322918.37	807.72

PLANTA
ESC. 1:50



SECCION D
Esc.1:50



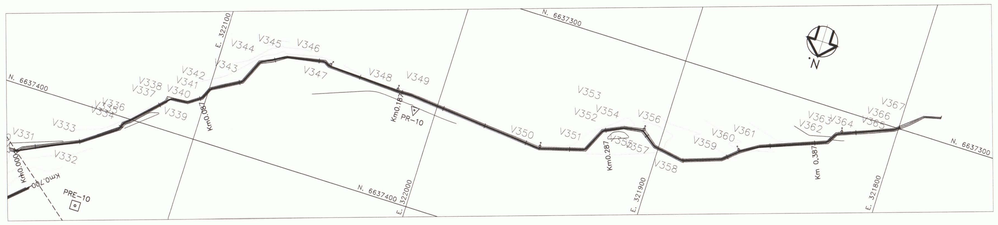
SECCION E
ESC.1:25

GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISION NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo	Título Plano: CANAL LADERA CRUCE QUEBRADAS PLANTA Y SECCIONES	
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercatot) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010
			Lámina: 052-1/1

CANAL PUQUIO

PLANTA

ESC. 1:1000



CUADRO DE SECCIONES

TRAMO (Km)		SECCION b (m)	SECCION H (m)	OBS.
0.000	0.186	0.4500	0.40	
0.186	0.255	0.4500	0.40	
0.255	0.354	0.4500	0.40	
0.354	0.429	0.4500	0.40	

PERFIL LONGITUDINAL

ESC. H=1:1000
ESC. V=1:100

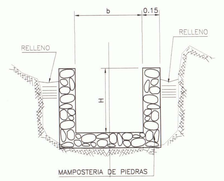
CUADRO DESARROLLO DE CURVAS Y VERTICES

CANAL BAJO FUNDINA

VERTICE Nº	COORDENADAS UBICACION ESTE (m)	NORTE (m)	VERTICE (m)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
330	322174.03	6637428.75	4167.03	104.05	0.0	0.00	0.00	4152.5	4152.5
331	322173.10	6637428.36	4168.04	-3.30	0.0	0.00	0.00	4153.5	4153.5
332	322147.86	6637416.19	4196.06	1.88	0.0	0.00	0.00	4181.6	4181.6
333	322147.63	6637416.08	4196.31	-12.88	0.0	0.00	0.00	4181.8	4181.8
334	322132.70	6637405.38	4214.68	-45.40	2.5	0.93	1.78	4199.2	4201.0
335	322132.06	6637402.67	4217.47	41.12	2.5	0.84	1.61	4202.0	4203.7
336	322129.36	6637400.45	4220.96	-6.43	0.0	0.00	0.00	4206.3	4206.3
337	322114.71	6637385.66	4241.78	46.72	2.5	0.96	1.83	4226.2	4228.0
338	322113.79	6637385.61	4242.74	-2.12	0.0	0.00	0.00	4228.0	4228.0
339	322107.21	6637385.02	4249.30	-33.24	2.5	0.67	1.31	4233.9	4235.2
340	322106.68	6637384.65	4249.95	0.54	0.0	0.00	0.00	4235.2	4235.2
341	322101.70	6637381.22	4255.99	-35.56	2.5	0.71	1.39	4240.5	4241.9
342	322099.51	6637376.21	4261.46	40.62	2.5	0.83	1.59	4245.8	4247.4
343	322086.49	6637368.74	4276.47	-40.27	2.5	0.82	1.58	4260.8	4262.4
344	322081.76	6637358.06	4288.16	42.22	2.5	0.86	1.66	4272.4	4274.0
345	322070.98	6637352.31	4300.37	18.94	2.5	0.37	0.74	4285.0	4285.8
346	322054.01	6637349.00	4317.66	45.26	2.5	0.93	1.78	4301.8	4303.5
347	322051.66	6637350.33	4320.37	-30.14	2.5	0.60	1.18	4304.7	4305.9
348	322019.20	6637351.79	4352.85	-4.15	0.0	0.00	0.00	4337.8	4337.8
349	322012.65	6637351.65	4359.41	6.92	0.0	0.00	0.00	4344.3	4344.3
350	321950.89	6637357.11	4421.41	-23.27	2.5	0.46	0.91	4405.9	4406.8
351	321930.99	6637351.45	4442.10	-54.70	2.5	1.15	2.15	4425.9	4428.0
352	321926.15	6637341.00	4453.62	44.23	2.5	0.91	1.74	4437.5	4439.2
353	321917.49	6637336.90	4463.19	17.87	2.5	0.35	0.70	4447.5	4448.2
354	321917.14	6637336.85	4463.54	-0.96	0.0	0.00	0.00	4448.2	4448.2
355	321908.97	6637335.39	4471.85	51.40	2.5	1.07	2.02	4455.5	4457.5
356	321908.10	6637336.03	4472.93	0.28	0.0	0.00	0.00	4457.5	4457.5
357	321901.78	6637340.68	4480.77	-29.76	2.5	0.60	1.17	4464.7	4465.9
358	321888.18	6637342.99	4494.57	-32.18	2.5	0.65	1.26	4478.5	4479.7
359	321871.43	6637337.11	4512.32	-24.12	2.5	0.48	0.95	4496.4	4497.3
360	321864.63	6637331.19	4521.34	11.04	2.5	0.22	0.43	4505.6	4506.1
361	321857.02	6637326.60	4530.23	10.97	2.5	0.22	0.43	4514.5	4515.0
362	321828.49	6637315.51	4560.84	-43.62	2.5	0.89	1.71	4544.5	4546.2
363	321825.82	6637310.80	4566.25	43.39	2.5	0.89	1.70	4549.8	4551.5
364	321824.99	6637310.48	4567.14	-0.48	0.0	0.00	0.00	4551.5	4551.5
365	321801.47	6637301.03	4592.49	-20.66	2.0	0.33	0.65	4576.5	4577.2
366	321801.19	6637300.79	4592.86	-0.66	0.0	0.00	0.00	4577.2	4577.2
367	321799.50	6637299.36	4595.04	0.00	0.0	0.00	0.00	4579.4	4579.4

SECCION TIPO

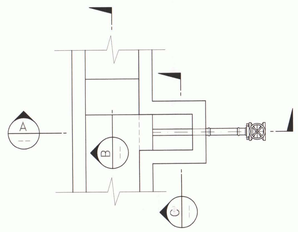
S/E



DETALLE ENTREGAS PREDIALES

PLANTA

ESC. 1:25



SECCION A

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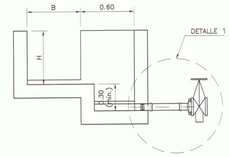

SECCION B

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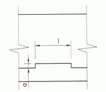

SECCION C

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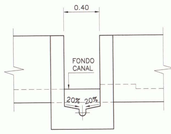
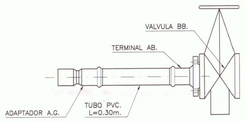


DETALLE 1

ESC. 1:10



CUADRO DE ENTREGAS PREDIALES CANAL PUQUIO

Km.	DIMENSIONES CANAL B(m)	CANAL H(m)	DIAMETRO ENTREGA (mm.)	GRADA a(m)	GRADA I(m)	COTAS FONDO (m.s.n.m.) EXIST.	COTAS FONDO (m.s.n.m.) PROY.
0.145	0.45	0.40	75	0.05	0.40		733.91
0.178	0.45	0.40	75	0.05	0.40		733.77
0.246	0.45	0.40	75	0.05	0.40		733.51
0.297	0.45	0.40	75	0.05	0.40		733.33
0.346	0.45	0.40	75	0.05	0.40		731.88
0.394	0.45	0.40	75	0.05	0.40		729.11

CUADRO DE PR.

PR Nº	NORTE	ESTE	COTA
10	6637357,70	322009,35	735,44

CUADRO DE PR. ESTACION

PRE Nº	NORTE	EGTE	COTA
10	6637444,25	322141,47	747,80

SIMBOLOGIA

CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	VO	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS

GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISIÓN NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo		Título Plano: CANAL PUQUIO PLANTAS Y PERFIL LONGITUDIN Y DETALLES
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010
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