ÍNDICE DE PLANOS

TOMO VII

Nº	Título
SECTOR 5	
	Proyecto de Mejoramiento Canal El Peñón
054-1/2	Canal El Peñón. Planta y Perfil Longitudinal
054-2/2	Canal El Peñón. Planta, Perfil Longitudinal y Detalles
055-1/1	Canal El Peñón. Cruce Quebrada Samo Alto. Plantas y Secciones
	Proyecto de Mejoramiento Unificación La Isla
056-1/2	Unificación La Isla. Obra de Captación. Plantas y Detalles
056-2/2	Unificación La Isla. Obra de Captación. Secciones
057-1/6	Unificación La Isla. Canal Isla. Planta y Perfil Longitudinal
057-2/6	Unificación La Isla. Canal Canutal. Planta y Perfil Longitudinal
057-3/6	Unificación La Isla. Canal Canutal. Planta y Perfil Longitudinal
057-4/6	Unificación La Isla. Canal Caracol. Planta y Perfil Longitudinal
057-5/6	Unificación La Isla. Canal Tahuinco. Planta y Perfil Longitudinal
057-6/6	Unificación La Isla. Canal del Carmen. Planta y Perfil Longitudinal
058-1/2	Unificación La Isla. Obra de Distribución. Plantas y Detalles
058-2/2	Unificación La Isla. Obra de Distribución. Plantas y Detalles
059-1/1	Unificación La Isla. Cruce de Quebradas. Plantas y Secciones
	Proyecto de Mejoramiento Canal Las Vertientes
060-1/2	Canal Las Vertientes. Planta y Perfil Longitudinal
060-2/2	Canal Las Vertientes. Planta y Perfil Longitudinal
061-1/1	Canal Las Vertientes. Cruce de Quebradas. Plantas y Secciones
	Proyecto de Mejoramiento Canal Huitrón
062-1/1	Canal Huitrón. Planta, Perfil Longitudinal y Detalles
	Proyecto de Mejoramiento Canal Huampulla
063-1/3	Canal Huampulla. Planta y Perfil Longitudinal
063-2/3	Canal Huampulla. Planta y Perfil Longitudinal
063-3/3	Canal Huampulla. Planta y Perfil Longitudinal
064-1/1	Canal Huampulla. Cruce de Quebradas. Plantas y Secciones
	Proyecto de Mejoramiento Canal Verde
065-1/2	Canal Verde. Planta y Perfil Longitudinal
065-2/2	Canal Verde. Planta, Perfil Longitudinal y Detalles
066-1/1	Canal Verde. Cruce de Quebradas. Plantas, Detalles y Secciones
	Proyecto de Mejoramiento Canal Totoral
067-1/1	Canal Totoral. Planta, Perfil Longitudinal y Detalles
	Proyecto de Mejoramiento Canal Molino Tabaqueros
068-1/1	Canal Molino Tabaqueros. Planta, Perfil Longitudinal y Detalles
069-1/1	Canal Molino Tabaqueros. Cruce de Quebradas. Plantas, Detalles y Secciones
	Proyecto de Mejoramiento Canal Pampa Los Marines
070-1/1	Canal Pampa de Los Marines. Planta, Perfil Longitudinal y Detalles

CANAL EL PEÑON

PLANTA
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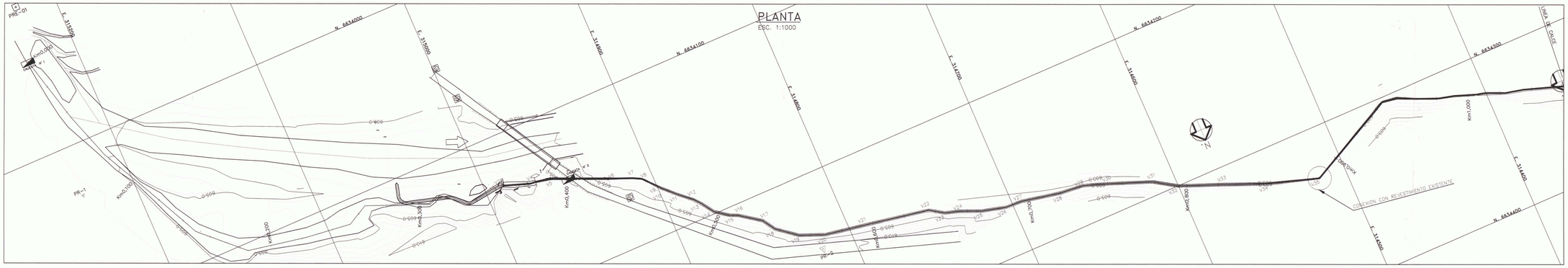

PERFIL LONGITUDINAL
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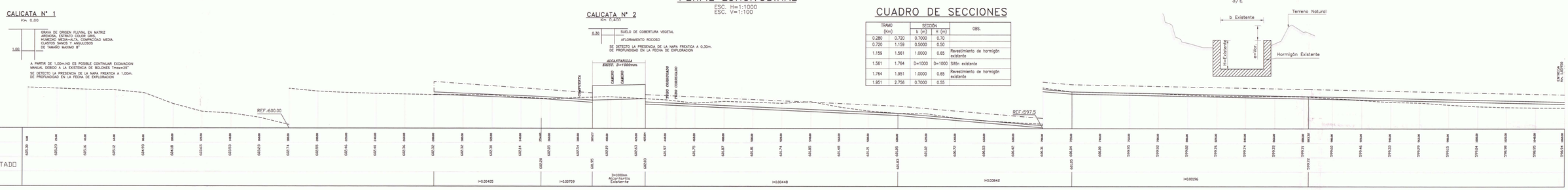
ESC. V=1:100



CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
0.280	0.720	0.7000	0.70	
0.720	1.159	0.5000	0.50	
1.159	1.561	1.0000	0.65	Revestimiento de hormigón existente
1.561	1.764	D=1000	D=1000	Sifón existente
1.764	1.951	1.0000	0.65	Revestimiento de hormigón existente
1.951	2.756	0.7000	0.55	

SECCION TIPO EXISTENTE
S/E

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

CUADRO DESARROLLO CURVAS Y VERTICES

VERTICE N°	COORDENADAS UBICACION ESTE	NORTE	VERTICE (m)	ANGULO (s)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
1	314993.432	6634130.92	0		0			0.0	0.0
2	314988.856	6634130.36	4.61	30.83	2.5	0.82	1.21	4.0	5.2
3	314972.204	6634136.7	22.43	-16.86	2.5	0.33	0.66	22.1	22.7
4	314966.783	6634137.04	25.87	5.82	0	0.00	0.00	25.8	25.8
5	314959.502	6634138.63	35.31	13.89	0	0.00	0.00	35.3	35.3
6	314926.136	6634153.25	71.67	-0.96	0	0.00	0.00	71.6	71.6
7	314912.277	6634158.99	86.67	4.81	0	0.00	0.00	86.6	86.6
8	314905.708	6634161.81	92.91	25.10	2.5	0.50	0.99	92.4	93.4
9	314899.491	6634170.24	104.01	1.34	0	0.00	0.00	104.0	104.0
10	314898.187	6634171.83	106.06	-6.94	0	0.00	0.00	106.0	106.0
11	314890.592	6634179.27	116.69	-3.52	0	0.00	0.00	116.6	116.6
12	314882.349	6634186.56	127.70	10.73	2.5	0.21	0.42	127.4	127.9
13	314878.537	6634191.29	133.77	5.20	0	0.00	0.00	133.7	133.7
14	314873.554	6634198.64	142.65	-21.52	2.5	0.43	0.85	142.2	143.0
15	314865.498	6634204.56	152.67	-13.56	2.5	0.27	0.53	152.4	152.9
16	314860.672	6634209.77	157.96	12.70	2.5	0.25	0.50	157.7	158.2
17	314847.798	6634216.02	173.82	24.78	2.5	0.49	0.97	173.3	174.2
18	314843.013	6634223.87	182.84	-21.86	2.5	0.43	0.86	182.5	183.4
19	314830.545	6634233.51	198.72	-18.10	2.5	0.36	0.71	198.3	199.0
20	314815.191	6634239.72	215.28	-13.44	2.5	0.26	0.53	214.9	215.5
21	314789.321	6634244.25	241.55	0.48	0	0.00	0.00	241.5	241.5
22	314746.818	6634251.48	281.71	25.22	2.5	0.50	0.99	281.1	282.1
23	314741.13	6634257.14	292.08	-18.61	2.5	0.37	0.73	291.6	292.3
24	314732.36	6634259.31	301.21	7.56	0	0.00	0.00	301.1	301.1
25	314719.424	6634265.23	315.28	-9.44	0	0.00	0.00	315.2	315.2
26	314704.348	6634269.17	330.86	-13.28	2.5	0.26	0.52	330.6	331.0
27	314693.911	6634269.66	341.31	9.79	2.5	0.19	0.38	341.0	341.4
28	314670.089	6634274.51	365.62	-6.66	0	0.00	0.00	365.5	365.5
29	314654.958	6634275.96	380.82	15.21	2.5	0.30	0.60	380.4	381.0
30	314640.773	6634280.91	395.85	2.02	0	0.00	0.00	395.7	395.7
31	314613.833	6634291.28	424.72	12.77	2.5	0.25	0.50	424.4	424.9

VERTICE N°	COORDENADAS UBICACION ESTE	NORTE	VERTICE (m)	ANGULO (s)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
32	314599.807	6634300.24	441.36	-12.22	2.5	0.24	0.48	441.0	441.5
33	314575.272	6634309.53	467.74	0.62	0	0.00	0.00	467.8	467.8
34	314547.833	6634321.19	497.30	-5.42	0	0.00	0.00	497.2	497.3
35	314516.863	6634330.99	529.85	-6.53	0	0.00	0.00	529.7	529.7
36	313834.382	6634473.870	1413.68	38.78	0	0.00	0.00	1413.6	1413.6
37	313825.298	6634483.509	1426.92	-13.48	2.5	0.27	0.53	1426.5	1427.1
38	313817.326	6634489.004	1436.61	-1.18	0	0.00	0.00	1436.5	1436.5
39	313814.440	6634490.914	1440.07	-8.90	0	0.00	0.00	1440.0	1440.0
40	313795.068	6634500.151	1461.53	-0.48	0	0.00	0.00	1461.4	1461.4
41	313785.117	6634504.807	1472.51	1.41	0	0.00	0.00	1472.4	1472.4
42	313773.110	6634510.752	1485.91	-1.66	0	0.00	0.00	1485.8	1485.8
43	313763.462	6634515.220	1496.54	0.10	0	0.00	0.00	1496.4	1496.4
44	313750.607	6634521.187	1510.73	0.15	0	0.00	0.00	1510.6	1510.6
45	313734.916	6634528.537	1528.04	6.30	0	0.00	0.00	1527.9	1527.9
46	313725.818	6634533.948	1538.63	6.04	0	0.00	0.00	1538.5	1538.5
47	313718.098	6634539.615	1548.53	3.89	0	0.00	0.00	1548.3	1548.3
48	313709.674	6634546.583	1559.14	13.71	2.5	0.27	0.54	1558.8	1559.3
49	313700.591	6634558.215	1573.00	23.16	2.5	0.46	0.91	1572.5	1574.2
50	313696.558	6634571.298	1587.59	-87.60	2	1.64	2.75	1585.8	1588.6
51	313686.478	6634570.742	1597.73	15.21	2.5	0.30	0.60	1596.8	1597.4
52	313675.777	6634571.690	1608.52	-8.48	0	0.00	0.00	1607.9	1607.9
53	313665.931	6634571.104	1618.37	12.28	2.5	0.24	0.48	1617.9	1617.9
54	313642.100	6634576.394	1642.66	12.48	2.5	0.25	0.49	1641.7	1642.2
55	313630.718	6634581.077	1654.96	-7.60	0	0.00	0.00	1654.3	1654.3
56	313619.107	6634584.302	1667.02	-0.64	0	0.00	0.00	1666.4	1666.4
57	313603.392	6634588.499	1683.28	-9.85	0	0.00	0.00	1682.6	1682.6
58	313586.537	6634590.363	1700.24	-3.01	0	0.00	0.00	1699.6	1699.6
59	313568.111	6634590.383	1717.88	-5.61	0	0.00	0.00	1717.0	1717.0
60	313554.057	6634589.035	1732.76	8.63	2.5	0.19	0.38	1732.4	1732.5
61	313533.068	6634590.094	1753.79	19.20	2.5	0.38	0.75	1752.7	1753.5

CUADRO DE ENTREGAS PREDIALES
CANAL EL PEÑON

Km.	DIMENSIONES CANAL B (m)	DIMENSIONES 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.
1,05950	0.50	0.50	75				
1,10451	0.50	0.50	75				
1,15054	0.50	0.50	75				
1,26670	0.50	0.50	75				
1,29739	0.50	0.50	75				
1,33161	0.50	0.50	75				
1,43882	0.50	0.50	75				
1,50629	D=1000	D=1000	75				
1,73813	0.50	0.50	75				
1,76703	1.00	0.65	75	0.10	0.50	597.85	
1,89210	1.00	0.65	75	0.10	0.50	597.65	
1,95130	1.00	0.65	75	0.10	0.50	597.56	
2,02064	1.00	0.65	75	0.15	0.50	597.46	
2,10726	1.00	0.65	75	0.15	0.50	597.40	

CUADRO DE PR.

PR. N°	NORTE	ESTE	COTA
1	6634031.75	315232.33	608.00
2	6634247.30	314820.16	608.19
3	6634360.67	314348.88	611.68
4	6634568.95	313955.32	600.08
5	6634595.82	313533.23	600.88

CUADRO DE PR.ESTACION

PRE N°	NORTE	ESTE	COTA
1	6633906.55	315224.50	620,53

SECCION TIPO
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:

- DETALLES DE ENTREGAS PREDIALES VER PLANO 054-2/2

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		Titulo Plano: CANAL EL PEÑON 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: 054-1/2

CANAL EL PEÑON

PLANTA

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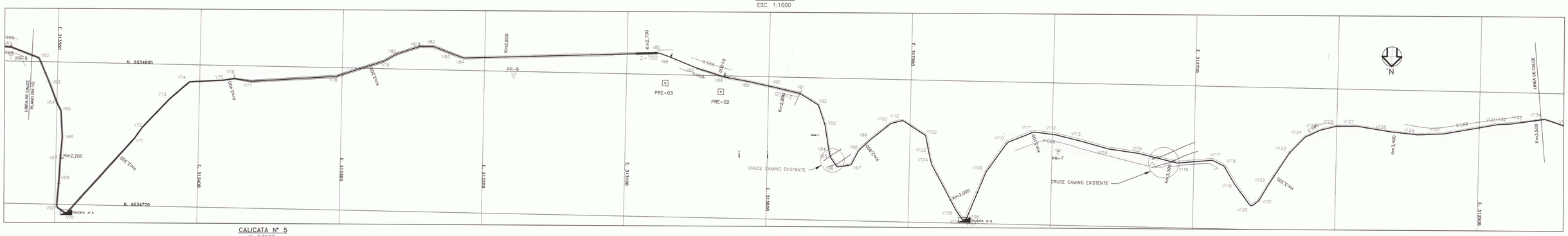
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E. 313000
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E. 312700
E. 312600
E. 312500
PR-5
PR-6
PR-03
PR-02
PR-7
CALICATA N° 5
CALICATA N° 6
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LINEA DE CALCE
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CRUCE CAMINO EXISTENTE
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QUEBRADA SAMO ALTO

PLANTA GENERAL

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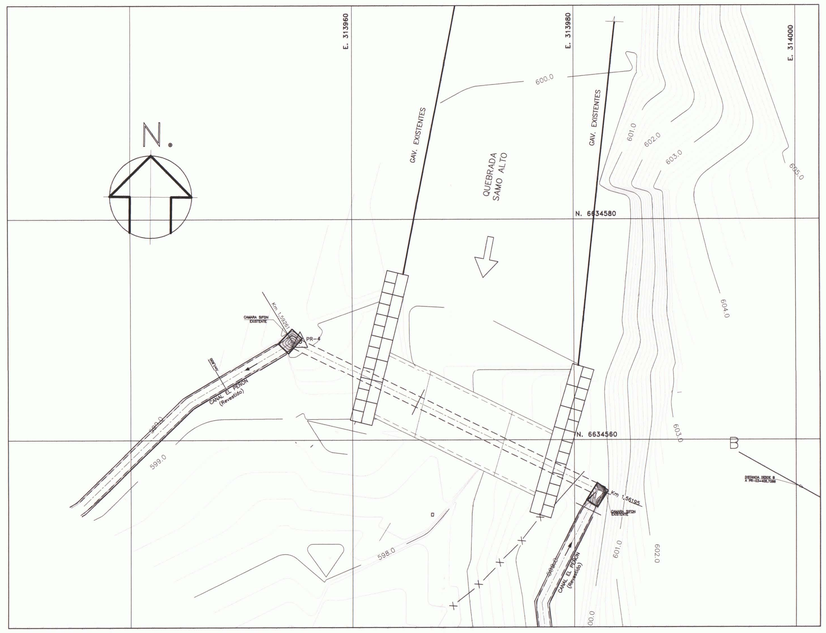
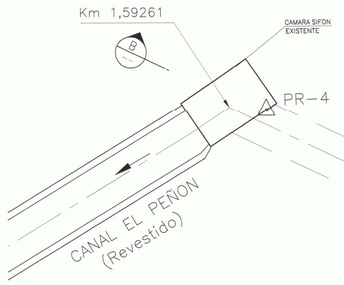


CANAL EL PEÑON

CRUCE QUEBRADA SAMO ALTO Km 1,58



PLANTA

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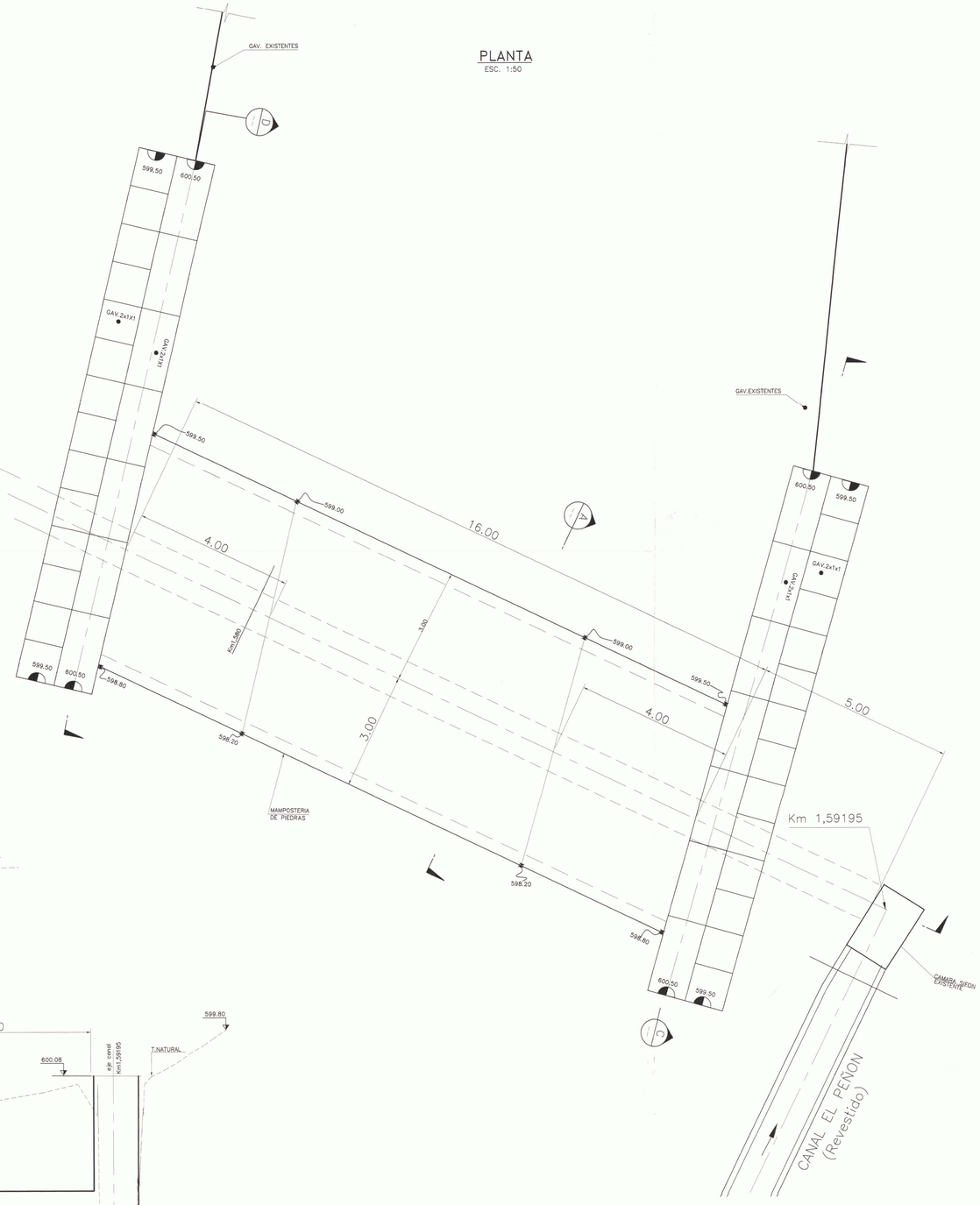


SECCION A

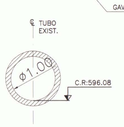
ESC.1:50

SECCION C

ESC.1:50

SECCION B

ESC.1:50



SECCION D

ESC.1:50

CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
03	6634360.67	314348.88	611.68
04	6634568.95	313955.32	600.08

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

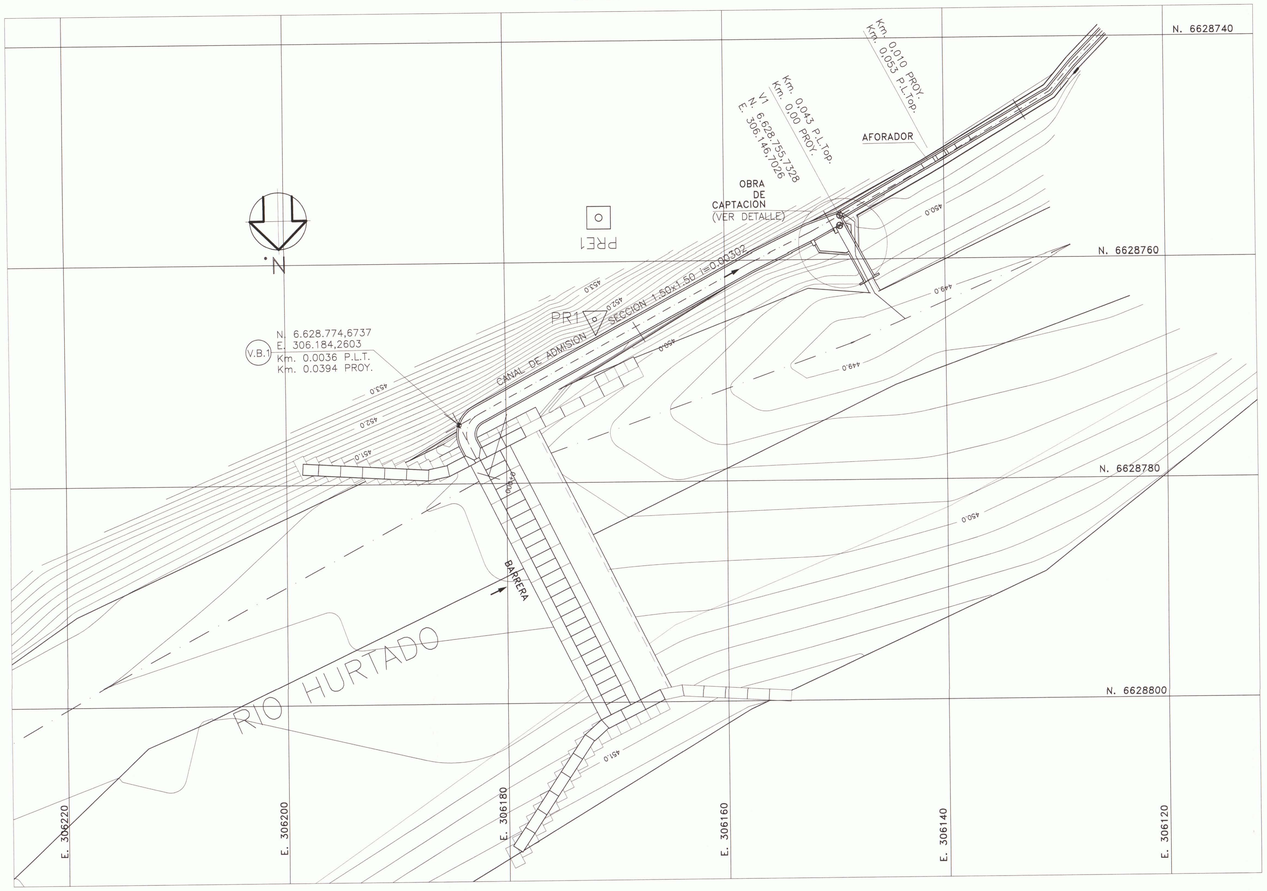
Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956

Título Plano: CANAL EL PEÑON CRUCE QUEBRADA SAMO ALTO PLANTA Y SECCIONES

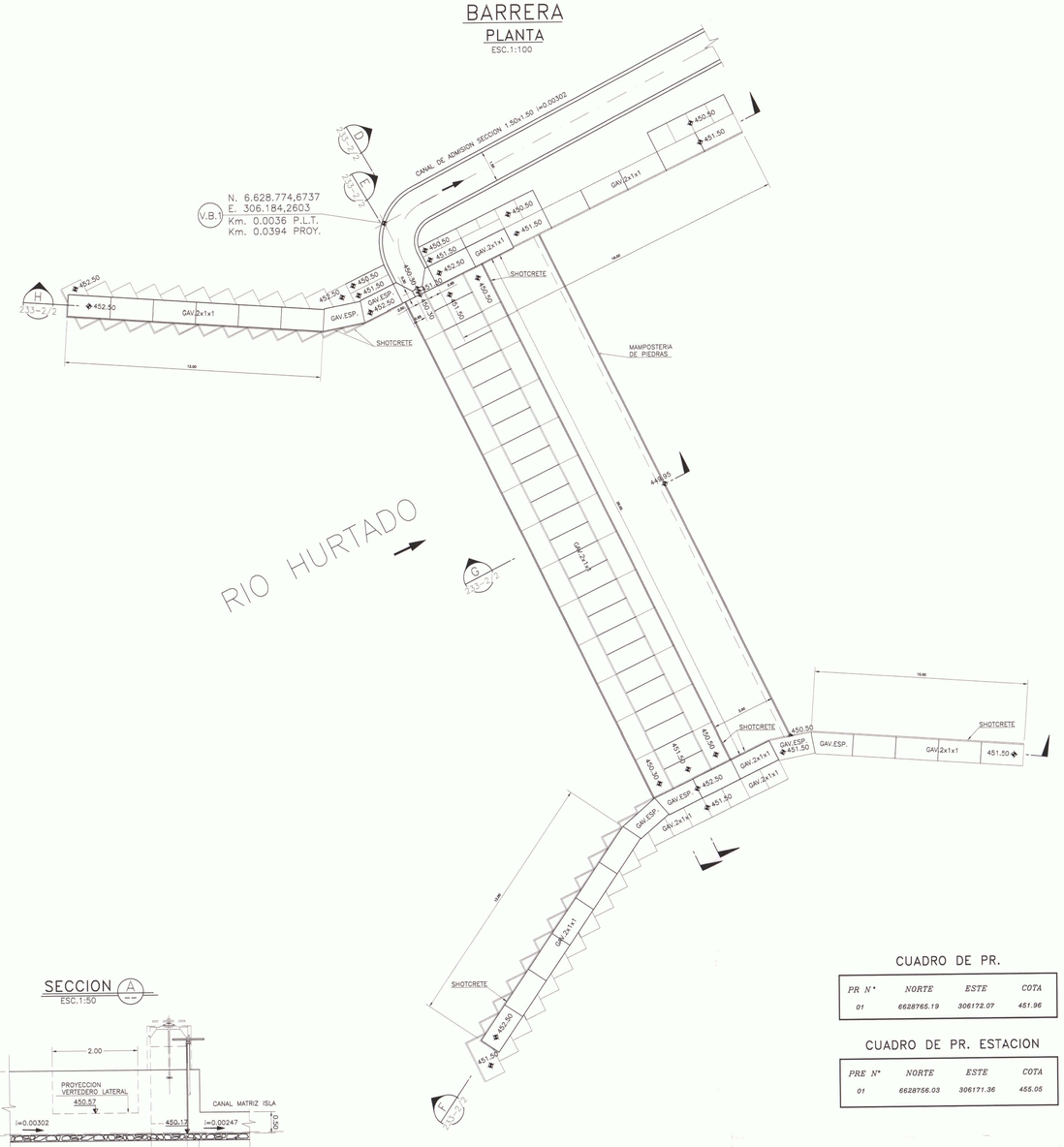
Fecha: FEBRERO 2010

Lámina: 055-1/1

UNIFICACION ISLA–CANAL ISLA
OBRA DE CAPTACION
PLANTA GENERAL
ESC. 1:200



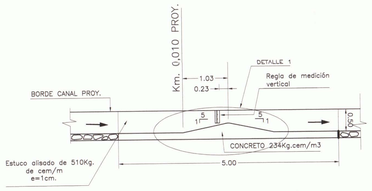
UNIFICACION ISLA–CANAL ISLA
BARRERA
PLANTA
ESC.1:100



PR N°	NORTE	ESTE	COTA
01	6628765.19	306172.07	451.96

PRE N°	NORTE	ESTE	COTA
01	6628756.03	306171.36	455.05

AFORADOR
CORTE LONGITUDINAL
ESC. 1:50



OBRA DE ADMISION
PLANTA
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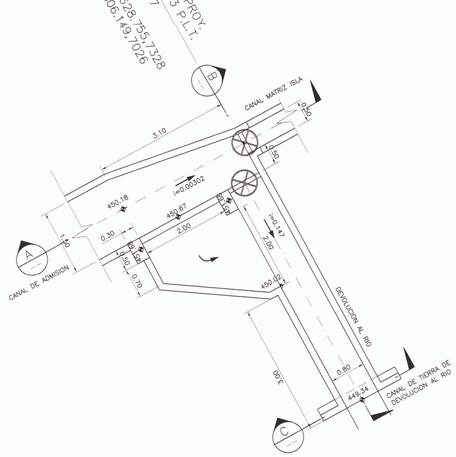

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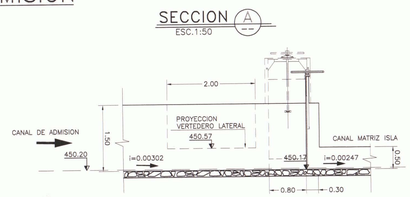

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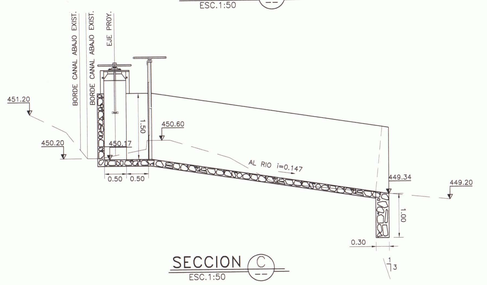

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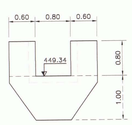

GAVION ESPECIAL
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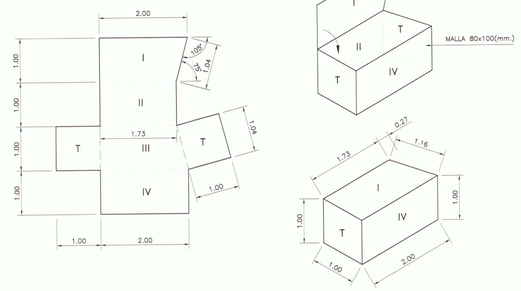
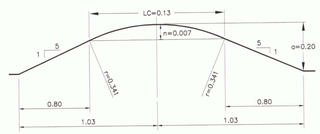
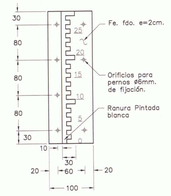
GAVION DESPLEGADO



DETALLE 1
SIN ESCALA



REGLA DE MEDICION VERTICAL
ESC. 1:50
Dimensiones en milimetros.



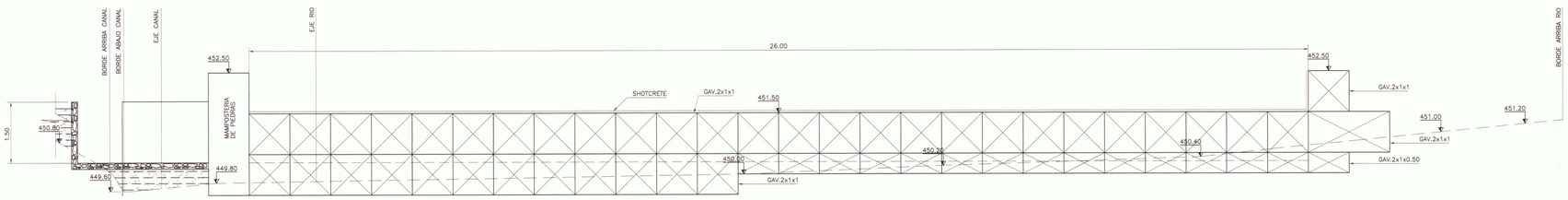
Nombre Estudio	Título Plano
Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo	UNIFICACIÓN ISLA OBRA DE CAPTACIÓN PLANTAS Y DETALLES

GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISIÓN NACIONAL DE RIEGO

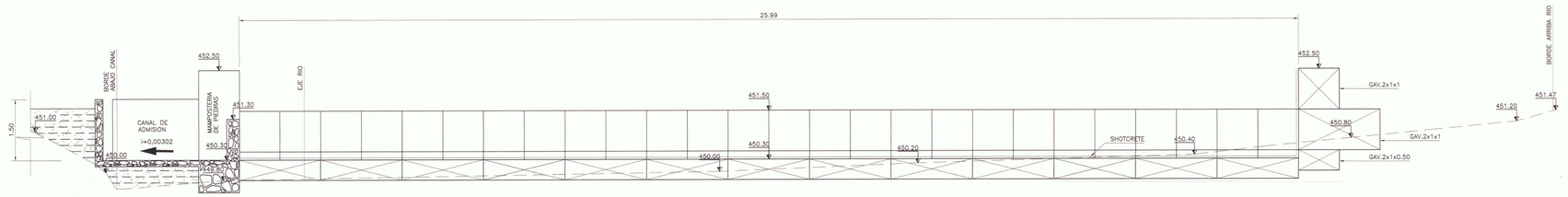
CONSULTOR	Escala	Proyección Cartográfica	Fecha	Lámina:
GCF Ingenieros Ltda.	Indicadas	UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	FEBRERO 2010	056-1/2

UNIFICACION ISLA– CANAL ISLA
BARRERA

SECCION D
ESC.1:50 233-1/2

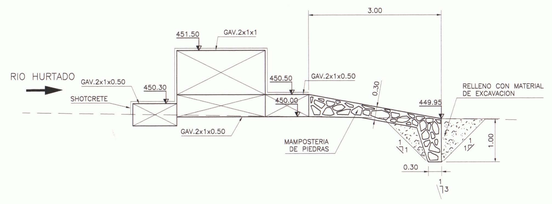


SECCION E
ESC.1:50 233-1/2



SECCION F
ESC.1:50 233-1/2

SECCION G
ESC.1:50 233-1/2



SECCION H
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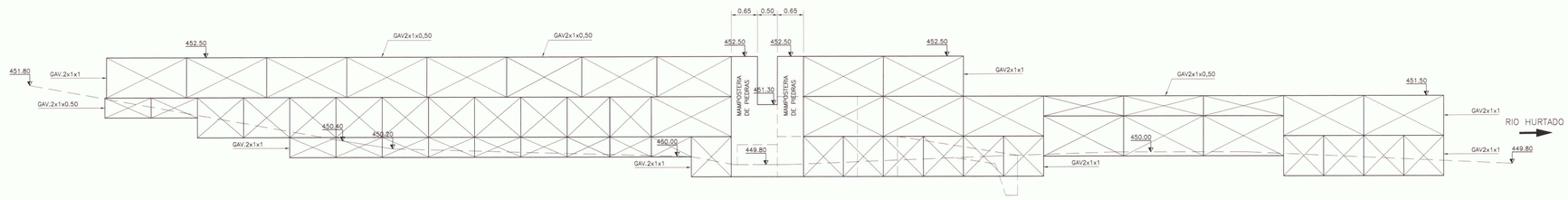
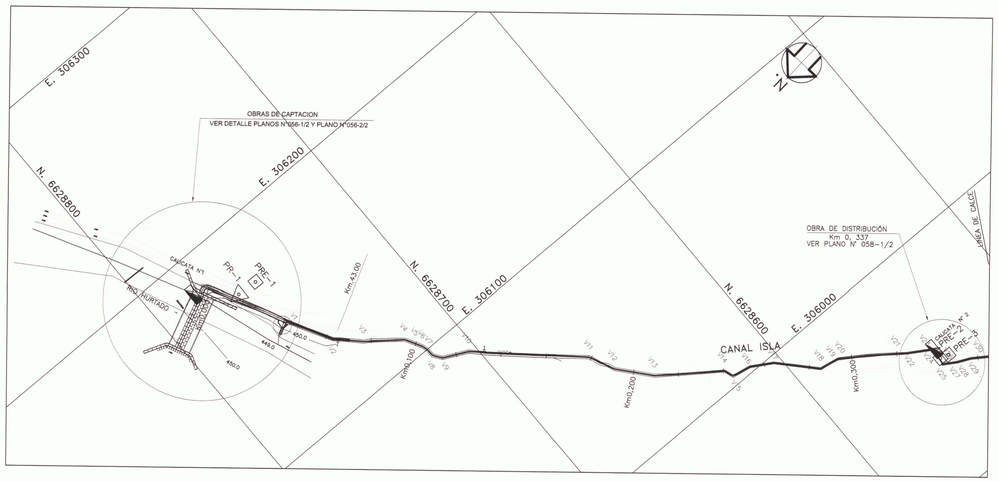


GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISIÓN NACIONAL DE RIEGO	Nombre Estudio Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo		Título Plano UNIFICACIÓN LA ISLA OBRA DE CAPTACIÓN SECCIONES	
CONSULTOR GCF Ingenieros Ltda.	Escala Indicadas	Proyección Cartográfica UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha FEBRERO 2010	Lámina: 056-2/2

UNIFICACION ISLA – CANAL ISLA

PLANTA GENERAL
ESC. 1:1000

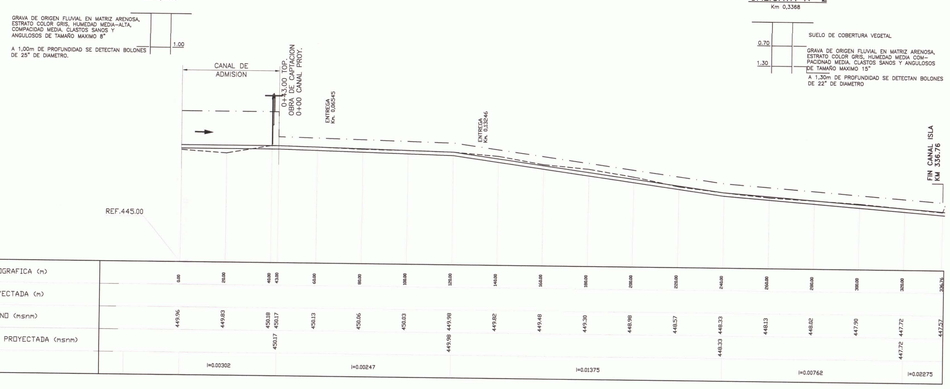


PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100

CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
0.000	0.043	1.5000	1.50	
0.043	0.120	0.5000	0.40	
0.120	0.240	0.5000	0.40	
0.240	0.320	0.5000	0.40	
0.320	0.336	0.5000	0.40	

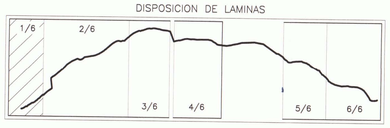
CALICATA N° 1
Km=0,00308



DISTANCIA TOPOGRAFICA (m)		0,00	20,00	40,00	60,00	80,00	100,00	120,00	140,00	160,00	180,00	200,00	220,00	240,00	260,00	280,00	300,00	320,00	336,76		
DISTANCIA PROYECTADA (m)		0,00	20,00	40,00	60,00	80,00	100,00	120,00	140,00	160,00	180,00	200,00	220,00	240,00	260,00	280,00	300,00	320,00	336,76		
COTA DE TERRENO (msnm)		445,96	445,83	445,69	445,57	445,53	445,46	445,38	445,30	445,22	445,14	445,06	444,98	444,90	444,82	444,74	444,66	444,58	444,50		
COTA DE FONDO PROYECTADA (msnm)		445,69	445,57	445,53	445,46	445,38	445,30	445,22	445,14	445,06	444,98	444,90	444,82	444,74	444,66	444,58	444,50	444,42	444,32		
PENDIENTE		I=0.00302			I=0.00247				I=0.01375					I=0.00762					I=0.02875		

CALICATA N° 2
Km 0,3368

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	

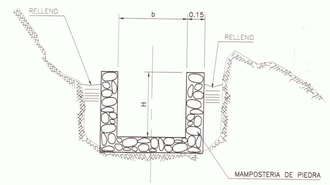
CUADRO DESARROLLO DE CURVAS Y VERTICES

VERTICE N°	COORDENADAS UBICACION ESTE	NORTE	VERTICE (m)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
1	306147.780	6628755.692	0					0.0	0.0
2	306130.133	6628745.927	20.17	−18.58	2.5	0.31	0.73	19.8	20.5
3	306120.804	6628736.372	33.52	−7.71	2.5	0.15	0.30	33.4	33.7
4	306109.706	6628721.848	51.80	26.01	2.5	0.52	1.02	51.3	52.3
5	306105.130	6628719.321	56.99	0.00	0	0.00	0.00	57.0	57.0
6	306102.336	6628717.729	60.25	13.86	2.5	0.27	0.54	60.0	60.5
7	306100.005	6628717.024	62.68	15.76	2.5	0.31	0.62	62.3	63.0
8	306096.386	6628716.862	66.30	−37.22	2.5	0.75	1.46	65.5	67.0
9	306092.792	6628714.248	70.75	−20.54	2.5	0.62	1.23	70.1	71.3
10	306087.575	6628703.593	82.61	18.39	2.5	0.36	0.72	82.2	82.9
11	306051.343	6628664.258	136.09	26.24	2.5	0.50	0.99	135.5	136.5
12	306040.240	6628656.166	148.30	−17.78	2.5	0.35	0.70	147.8	148.5
13	306036.551	6628647.419	166.34	−14.78	2.5	0.29	0.58	165.9	166.5
14	306008.300	6628622.205	197.30	40.00	2.5	0.81	1.57	196.4	198.0
15	306004.099	6628621.000	201.76	−67.85	2.5	1.47	2.66	200.1	202.8
16	306002.456	6628612.567	210.33	21.70	2.5	0.43	0.85	209.4	210.3
17	305997.032	6628603.408	221.00	18.35	2.5	0.36	0.72	220.2	220.9
18	305981.850	6628589.111	242.00	−41.43	2.5	0.84	1.63	240.7	242.3
19	305980.152	6628580.465	250.77	27.08	2.5	0.54	1.06	249.7	250.8
20	305979.849	6628580.019	251.31	0.81	0	0.00	0.00	250.8	250.8
21	305965.210	6628569.110	276.83	2.36	0	0.00	0.00	276.3	276.3
22	305962.416	6628555.420	281.46	−6.45	0	0.00	0.00	280.9	280.9
23	305956.112	6628540.004	293.59	100.00	0	0.00	0.00	293.0	293.0

CUADRO DE ENTREGAS PREDIALES
CANAL ISLA

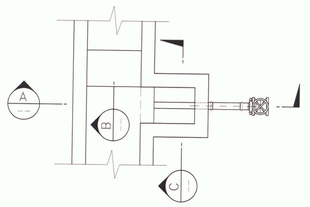
Km.	DIMENSIONES(m) CANAL (m.) B	H	DIAMETRO ENTREGA (mm.)	GRADA (m.) a	b	COTAS FONDO EXIST.	PROY.
0,06545	0.50	0.40	0.75	0.05	0.50		450.11
0,13246	0.50	0.40	0.75	0.05	0.50		449.81

SECCION TIPO
S/E

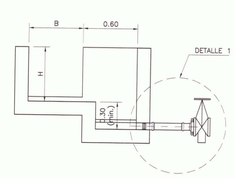


DETALLE DE ENTREGAS PREDIALES

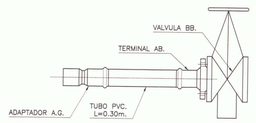
PLANTA
ESC. 1:25



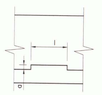
SECCION A
ESC.1:25



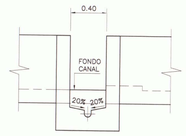
DETALLE 1
ESC. 1:10



SECCION B
ESC.1:25



SECCION C
ESC.1:25



CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
01	6628765.19	306172.07	451.96

CUADRO DE PR. ESTACION

PRE N°	NORTE	ESTE	COTA
01	6628756.03	306171.36	455.05

TA GENERAL:

– 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: UNIFICACIÓN ISLA CANAL ISLA 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: 057-1/6

UNIFICACION ISLA – CANAL CANUTAL

PLANTA GENERAL
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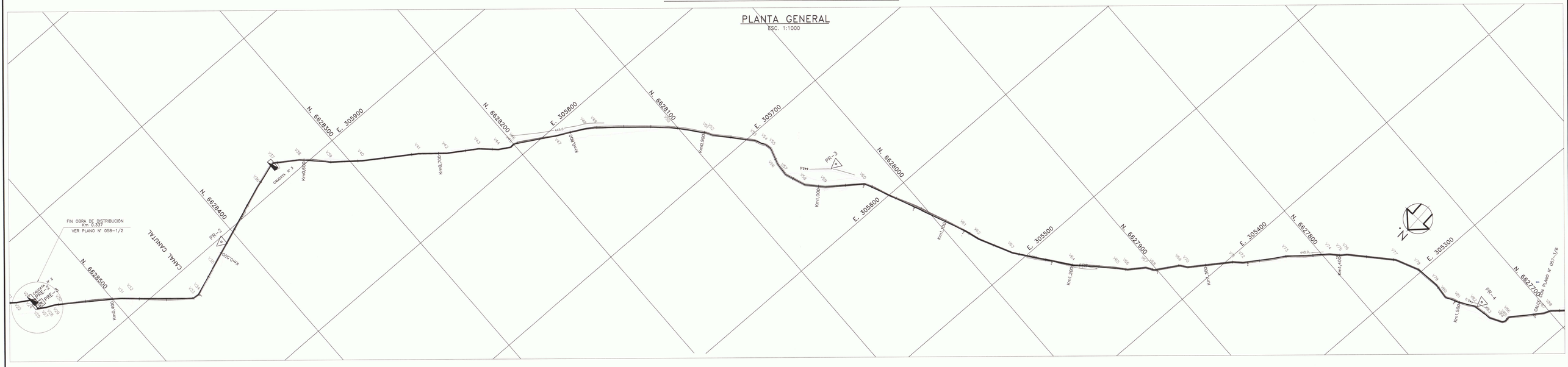
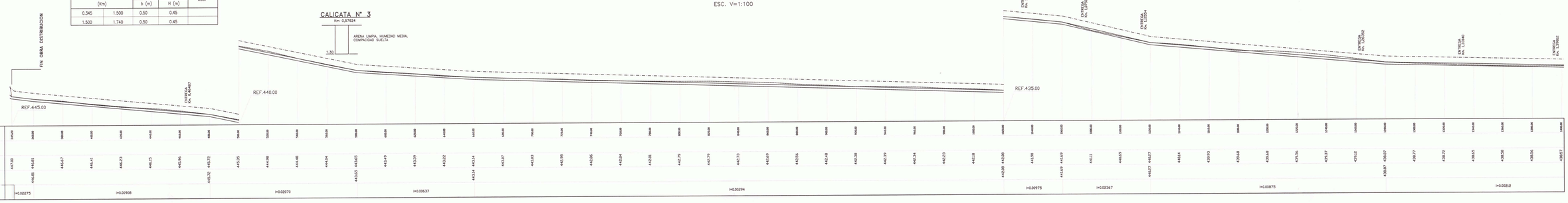


CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
0.345	1.500	0.50	0.45	
1.500	1.740	0.50	0.45	

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



PERFIL LONGITUDINAL
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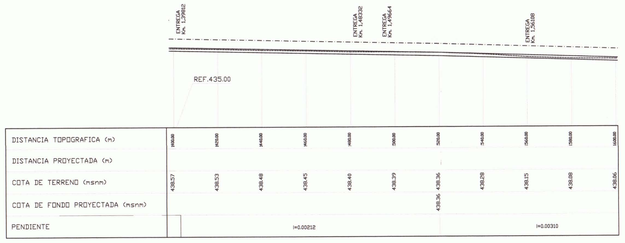


CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE N°	COORDENADAS ESTE	COORDENADAS NORTE	UBICACION VERTICE (m)	ANGULO (a)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA	FIN CURVA
24	305953.139	6628446.159	296.86	0.00	0	0.00	0.00	296.3	296.3
25	305946.532	6628546.268	300.47	32.89	2.5	0.66	1.28	299.2	300.5
27	305948.728	6628546.754	301.41	-99.57	0	0.00	0.00	300.8	300.8
28	305945.234	6628541.061	306.09	-7.43	2.5	0.15	0.29	307.5	307.8
29	305942.592	6628535.345	314.39	9.84	2.5	0.19	0.39	313.8	314.0
30	305940.869	6628532.759	317.49	1.74	0	0.00	0.00	315.9	315.9
31	305914.121	6628494.902	363.84	-0.09	0	0.00	0.00	363.2	363.2
32	305914.051	6628494.806	363.97	8.19	0	0.00	0.00	363.4	363.4
33	305879.178	6628454.317	417.40	-39.18	2.5	0.79	1.54	416.0	417.5
34	305878.720	6628449.547	422.20	-28.88	2.5	0.58	1.13	421.0	422.1
35	305886.457	6628428.826	444.32	0.37	2.5	0.01	0.01	443.6	443.6
36	305910.278	6628363.906	1328.15	4.14	2.5	0.08	0.16	1327.4	1327.6
37	305916.056	6628344.309	1348.58	55.74	2.5	1.13	2.19	1346.7	1348.9
38	305904.909	6628327.620	1368.65	12.58	2.5	0.25	0.49	1367.6	1368.1
39	305888.617	6628311.418	1391.59	-7.52	2.5	0.15	0.30	1390.8	1390.9
40	305871.964	6628292.765	1415.39	-5.28	2.5	0.10	0.21	1414.4	1414.6
41	305850.878	6628257.982	1457.09	7.12	2.5	0.14	0.28	1456.1	1456.4
42	305837.496	6628242.001	1477.94	-8.00	2.5	0.15	0.31	1477.0	1477.3
43	305824.536	6628221.819	1501.87	11.19	2.5	0.22	0.44	1500.8	1501.3
44	305814.588	6628172.108	1516.50	-13.46	2.5	0.27	0.53	1515.4	1515.9
45	305809.863	6628203.197	1525.75	-39.78	2.5	0.81	1.56	1524.1	1525.7
46	305810.151	6628199.808	1529.00	38.78	2.5	0.79	1.52	1527.3	1528.9
47	305784.188	6628172.104	1561.11	-3.02	2.5	0.06	0.12	1560.1	1560.2
48	305784.248	6628152.674	1580.93	7.15	2.5	0.14	0.28	1581.8	1582.1
49	305779.982	6628146.240	1590.65	7.67	2.5	0.15	0.30	1589.6	1589.9
50	305744.709	6628104.870	1645.09	10.05	2.5	0.20	0.39	1643.9	1644.3
51	305723.036	6628086.314	1673.55	12.50	2.5	0.25	0.49	1672.4	1672.9
52	305718.636	6628084.015	1678.25	-13.99	2.5	0.27	0.55	1677.0	1677.6
53	305695.398	6628062.950	1709.84	15.52	2.5	0.31	0.61	1708.6	1709.2
54	305687.541	6628058.798	1718.73	17.97	2.5	0.36	0.71	1717.4	1718.1
55	305683.206	6628057.899	1723.15	31.82	2.5	0.64	1.25	1721.8	1722.8
56	305671.478	6628061.474	1735.41	-14.02	2.5	0.28	0.55	1734.2	1734.7
57	305661.443	6628062.233	1745.48	-28.87	2.5	0.58	1.13	1743.9	1745.1
58	305648.427	6628056.269	1761.64	-23.72	2.5	0.47	0.93	1760.2	1761.1
59	305635.426	6628046.011	1776.68	-11.99	2.5	0.24	0.47	1775.4	1775.9
60	305618.122	6628022.380	1805.96	32.71	2.5	0.66	1.28	1804.3	1805.6
61	305544.081	6627988.937	1887.22	6.61	2.5	0.13	0.26	1886.0	1886.3
62	305532.168	6627984.949	1899.77	-9.48	2.5	0.19	0.37	1898.5	1898.9
63	305508.154	6627972.772	1928.87	-11.99	2.5	0.23	0.47	1925.4	1925.9
64	305471.598	6627944.566	1972.87	-8.74	2.5	0.17	0.34	1971.7	1972.0
65	305448.546	6627931.113	2005.76	4.91	2.5	0.10	0.20	2004.6	2004.8
66	305443.153	6627916.369	2012.98	-15.91	2.5	0.31	0.63	2011.6	2012.3
67	305435.324	6627905.128	2026.64	-25.28	2.5	0.50	0.99	2025.1	2026.1
68	305429.533	6627901.675	2033.05	-29.65	2.5	0.59	1.16	2031.4	2032.6
69	305420.049	6627885.054	2052.38	24.85	2.5	0.49	0.98	2050.8	2051.8
70	305415.347	6627881.593	2058.35	-21.09	2.5	0.42	0.82	2056.8	2057.6
71	305396.384	6627853.619	2092.00	11.03	2.5	0.23	0.43	2090.7	2091.1
72	305391.029	6627848.099	2099.69	-13.09	2.5	0.26	0.51	2098.5	2098.8
73	305373.640	6627830.726	2132.12	6.27	2.5	0.13	0.25	2130.9	2131.1
74	305353.843	6627795.409	2164.22	9.33	2.5	0.18	0.37	2162.9	2163.3
75	305348.047	6627789.949	2172.22	-13.32	2.5	0.26	0.52	2170.9	2171.4
76	305345.255	6627785.837	2177.09	13.86	2.5	0.29	0.55	2175.7	2176.3
77	305318.694	6627761.174	2213.43	18.80	2.5	0.37	0.74	2211.9	2212.7
78	305302.178	6627753.105	2231.87	19.91	2.5	0.39	0.78	2230.3	2231.1
79	305284.696	6627750.613	2248.46	14.19	2.5	0.28	0.55	2248.1	2248.6
80	305273.813	6627751.483	2260.38	-37.08	2.5	0.75	1.46	2258.5	2260.0
81	305264.700	6627746.474	2270.78	-6.85	2.5	0.13	0.27	2269.5	2269.8
82	305254.329	6627739.223	2283.44	25.91	2.5	0.53	1.02	2281.8	2282.8
83	305240.880	6627736.451	2297.17	-20.91	2.5	0.41	0.82	2295.6	2296.4
84	305232.378	6627731.451	2307.03	-39.48	2.5	0.80	1.55	2305.0	2306.6
85	305231.370	6627729.188	2309.51	-39.21	2.5	0.80	1.54	2307.5	2309.0
86	305232.082	6627725.631	2313.15	50.71	2.5	1.05	1.99	2310.8	2312.8
87	305217.237	6627703.898	2339.46	-15.30	2.5	0.30	0.60	2337.9	2338.4
88	305215.409	6627699.031	2344.66	21.08	2.5	0.42	0.83	2342.8	2343.7
89	305200.396	6627685.814	2368.28	-20.65	2.5	0.41	0.81	2366.5	2367.3
90	305197.111	6627672.320	2377.38	18.46	2.5	0.37	0.72	2375.6	2376.3

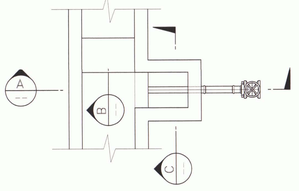
CUADRO DE ENTREGAS PREDIALES
CANAL CANUTAL

Km.	DIMENSIONES(m) CANAL (m.) B	CANAL (m.) H	DIAMETRO ENTREGA (mm.)	GRADA (m.) a	COTAS FONDO EXIST.	COTAS FONDO PROY.
0.464870	0.50	0.45	0.75	0.05	0.50	445.86
1.034210	0.50	0.45	0.75	0.05	0.50	441.94
1.075050	0.50	0.45	0.75	0.05	0.50	441.33
1.115540	0.50	0.45	0.75	0.05	0.50	440.38
1.263520	0.50	0.45	0.75	0.05	0.50	439.01
1.331400	0.50	0.45	0.75	0.10	0.50	438.76
1.398120	0.50	0.45	0.75	0.10	0.50	438.62
1.483320	0.50	0.45	0.75	0.10	0.50	438.44
1.496640	0.50	0.45	0.75	0.10	0.50	438.41
1.561080	0.50	0.45	0.75	0.05	0.50	438.23

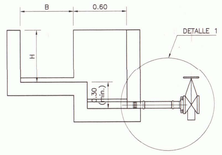
ENTREGAS PREDIALES

DETALLE DE ENTREGAS PREDIALES

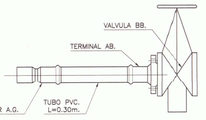
PLANTA
ESC. 1:25



SECCION A
ESC.1:25

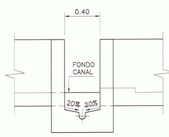


DETALLE 1
ESC. 1:10

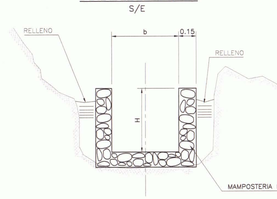


SECCION B
ESC.1:25

SECCION C
ESC.1:25



SECCION TIPO
S/E



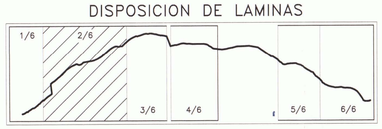
CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
02	6628411.03	305897.20	445.92
03	6628028.65	305643.02	447.58
04	6627733.37	305253.49	440.92

CUADRO DE PR. ESTACION

PR N°	NORTE	ESTE	COTA
02	6628545.64	305951.37	448.27
03	6628541.91	305950.24	448.20

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	

NOTA GENERAL:

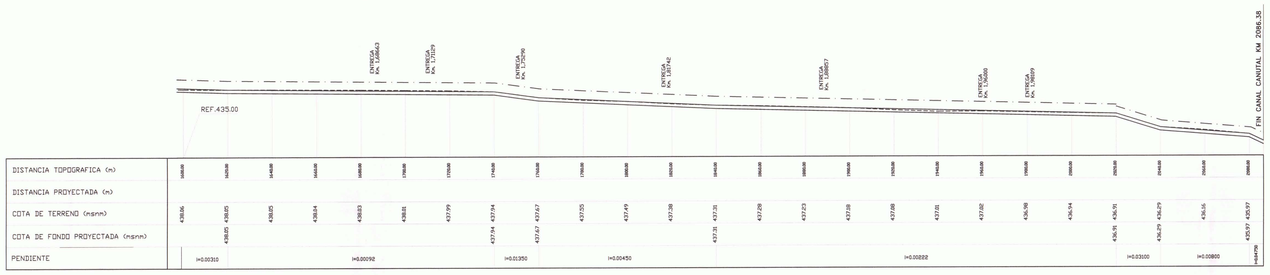
– TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS

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: UNIFICACIÓN LA ISLA CANAL CANUTAL 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: 057-2/6

UNIFICACION ISLA – CANAL CANUTAL

PLANTA GENERAL
ESC. 1:1000

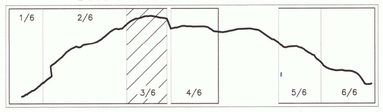
PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100



CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
1,500	1,740	0,5000	0,45	
1,740	1,840	0,5000	0,45	
1,840	2,000	0,5000	0,45	
2,000	2,086	0,5000	0,45	

DISPOSICION DE LAMINAS



NOTA GENERAL:

– TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS

CUADRO DESARROLLO DE CURVAS Y VERTICES

VERTICE N°	COORDENADAS ESTE	COORDENADAS NORTE	VERTICE (g)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
91	305166.784	6627632.905	2427.11	11.71	2.5	0.23	0.46	2425.3	2425.9
92	305142.018	6627610.697	2480.37	2.98	2.5	0.06	0.12	2458.9	2459.0
93	305116.049	6627589.517	2483.89	16.15	2.5	0.32	0.63	2492.1	2492.8
94	305104.027	6627583.997	2507.12	63.21	2.5	1.35	1.48	2504.3	2505.8
95	305101.151	6627585.810	2510.52	-46.70	2.5	0.96	1.83	2507.9	2509.7
96	305094.125	6627584.589	2517.65	-35.18	2.5	0.72	1.41	2515.3	2516.8
97	305085.888	6627577.176	2528.73	23.10	2.5	0.46	0.91	2526.5	2527.4
98	305073.774	6627572.473	2541.13	-14.40	2.5	0.28	0.57	2539.7	2540.2
99	305029.646	6627542.509	2595.07	8.64	2.5	0.17	0.34	2593.1	2593.4
100	305009.679	6627532.589	2617.36	22.39	2.5	0.44	0.88	2615.1	2616.0
101	304987.651	6627530.174	2639.52	-20.40	2.5	0.40	0.80	2637.3	2638.1
102	304963.393	6627519.061	2666.20	9.03	2.5	0.18	0.35	2664.2	2664.6
103	304957.355	6627517.331	2673.30	14.19	2.5	0.28	0.56	2670.2	2670.8
104	304911.946	6627514.355	2718.00	-6.82	2.5	0.13	0.27	2716.1	2716.3
105	304895.326	6627511.456	2734.89	16.83	2.5	0.33	0.66	2732.7	2733.4
106	304874.528	6627513.372	2755.75	-9.23	2.5	0.18	0.36	2753.8	2754.1
107	304841.675	6627511.828	2788.65	-18.61	2.5	0.37	0.74	2786.5	2787.2
108	304833.174	6627508.539	2797.70	12.66	2.5	0.25	0.50	2795.6	2796.1
109	304820.821	6627506.677	2810.19	5.09	2.5	0.10	0.20	2808.5	2808.5
110	304801.106	6627505.302	2829.96	5.61	2.5	0.13	0.26	2828.0	2828.3
111	304779.777	6627506.032	2851.30	-0.41	0	0.00	0.00	2849.5	2849.5
112	304773.398	6627508.209	2857.68	99.031	0	0.00	0.00	2855.9	2855.9

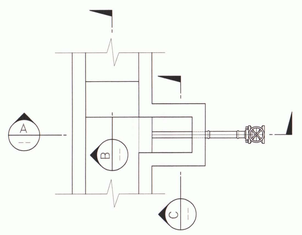
ENTREGAS PREDIALES

CUADRO DE ENTREGAS PREDIALES
CANAL CANUTAL

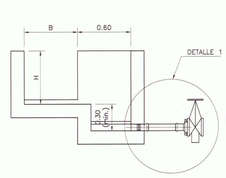
Km.	DIMENSIONES(m) CANAL (m.) B	H	DIAMETRO ENTREGA (mm.)	GRADA (m.) a	i	COTAS FONDO EXIST.	PROY.
1,686630	0.50	0.45	0.75	0.10	0.50		437.99
1,711290	0.50	0.45	0.75	0.10	0.50		437.97
1,752900	0.50	0.45	0.75	0.05	0.50		437.77
1,817420	0.50	0.45	0.75	0.05	0.50		437.41
1,888570	0.50	0.45	0.75	0.05	0.50		437.20
1,960000	0.50	0.45	0.75	0.05	0.50		437.04
1,981090	0.50	0.45	0.75	0.05	0.50		436.99

DETALLE DE ENTREGAS PREDIALES

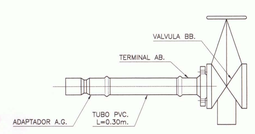
PLANTA
ESC. 1:25



SECCION A
ESC.1:25



DETALLE 1
ESC. 1:10



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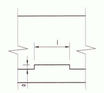
ESC.1:25



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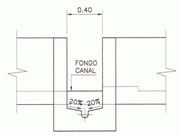
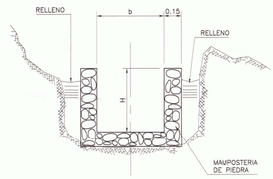
ESC.1:25



SECCION TIPO
S/E



CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
05	6627501.58	304827.41	440.66

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	

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: UNIFICACIÓN LA ISLA CANAL CANUTAL PLANTAS Y PERFIL LONGITUDINAL

CONSULTOR: GCF Ingenieros Ltda.

Escala: Indicadas

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

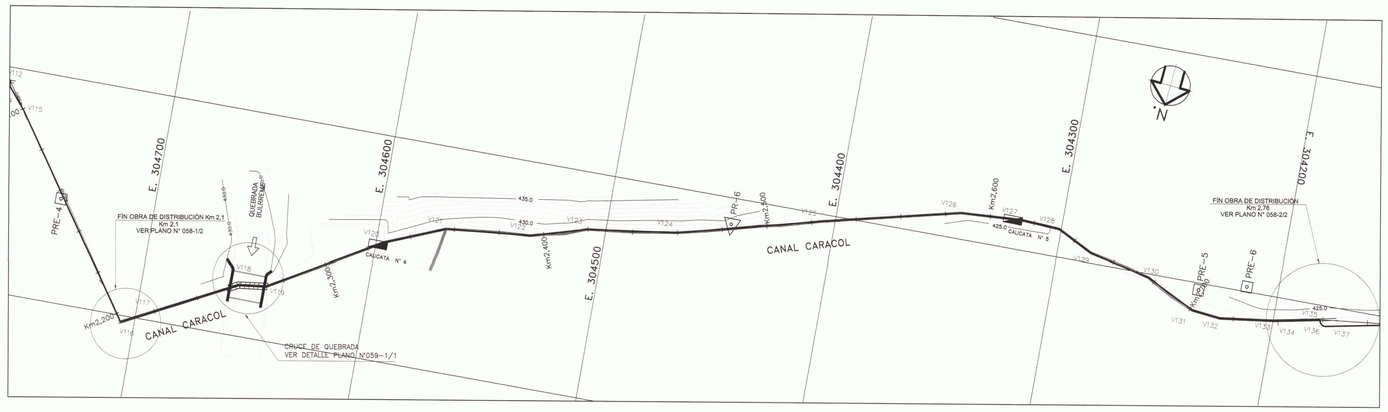
Fecha: FEBRERO 2010

Lámina: 057-3/6

UNIFICACION ISLA – CANAL CARACOL

PLANTA GENERAL

ESC. 1:1000



PERFIL LONGITUDINAL

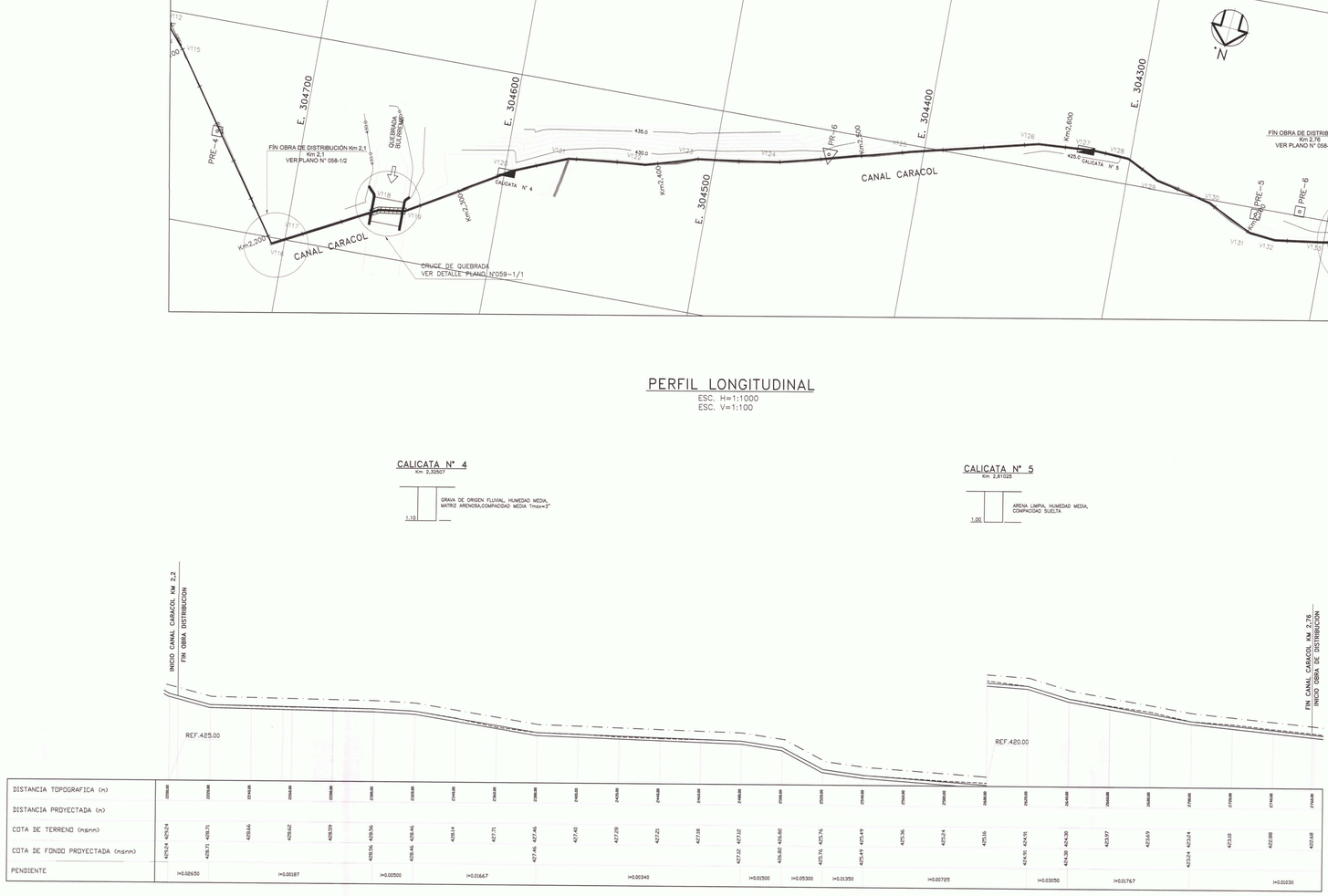
ESC. H=1:1000
ESC. V=1:100

CALICATA N° 4

Km 2,32507

CALICATA N° 5

Km 2,67025



CUADRO DE SECCIONES

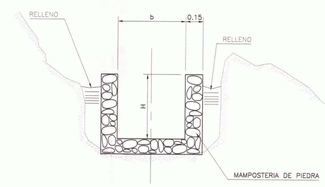
TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
2,204	2,222	0.5000	0.40	
2,222	2,300	0.5000	0.40	
2,300	2,320	0.5000	0.40	
2,320	2,380	0.5000	0.40	
2,380	2,500	0.5000	0.40	
2,500	2,520	0.5000	0.40	
2,520	2,540	0.5000	0.40	
2,540	2,620	0.5000	0.40	
2,620	2,640	0.5000	0.40	
2,640	2,700	0.5000	0.40	
2,700	2,759	0.5000	0.40	

CUADRO DESARROLLO DE CURVAS Y VERTICES

VERTICE N°	COORDENADAS LIBICACION ESTE	NORTE	VERTICE (m)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
114	304772.826	6627508.918	2860.60	0.09	0	0.00	0.00	2858.7	2858.7
115	304765.052	6627518.200	2872.71	5.68	0	0.00	0.00	2870.8	2870.8
116	304706.099	6627602.886	2975.89	-91.7	0	0.00	0.00	2974.0	2974.0
117	304692.068	6627565.598	2991.70	-5.15	0	0.00	0.00	2989.8	2989.8
118	304657.158	6627577.372	3031.08	22.33	2.5	0.44	0.88	3028.7	3029.6
119	304644.746	6627575.745	3043.80	-25.7	2.5	0.51	1.01	3041.2	3042.2
120	304636.648	6627547.286	3099.49	9.08	2.5	0.18	0.36	3097.4	3097.7
121	304570.343	6627536.427	3127.94	18.52	2.5	0.37	0.73	3125.1	3125.4
122	304532.865	6627532.845	3165.59	-11.08	2.5	0.24	0.47	3163.4	3163.9
123	304508.480	6627525.393	3191.27	9.52	2.5	0.18	0.37	3189.0	3189.3
124	304468.340	6627519.682	3231.60	-7.35	2.5	0.14	0.29	3229.5	3229.8
125	304406.319	6627503.304	3295.85	1.09	2.5	0.02	0.04	3293.9	3293.9
126	304345.327	6627488.383	3358.53	11.36	2.5	0.22	0.45	3356.4	3356.8
127	304318.051	6627486.695	3385.86	7.24	2.5	0.14	0.28	3383.9	3384.1
128	304300.878	6627487.587	3403.05	28.62	2.5	0.53	1.05	3400.8	3401.6
129	304286.318	6627495.545	3420.62	-15.8	2.5	0.31	0.62	3418.4	3419.0
130	304257.852	6627501.690	3448.67	15.36	2.5	0.30	0.60	3446.4	3447.0
131	304236.214	6627512.458	3472.84	-22.81	2.5	0.45	0.90	3470.4	3471.3
132	304223.572	6627513.787	3485.55	-15.17	2.5	0.30	0.60	3483.7	3483.9
133	304199.846	6627510.580	3509.49	-4.26	2.5	0.08	0.17	3507.4	3507.6
134	304197.831	6627510.188	3511.55	0.00	0	0.00	0.00	3509.6	3509.6
135	304179.386	6627508.404	3530.38	111.64	0	0.00	0.00	3528.4	3528.4

SECCION TIPO

S/E



CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
06	6627511.68	304445.40	429.23

CUADRO DE PR. ESTACION

PRE N°	NORTE	ESTE	COTA
05	6627503.06	304235.09	432.86
06	6627497.80	304214.09	434.06

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:

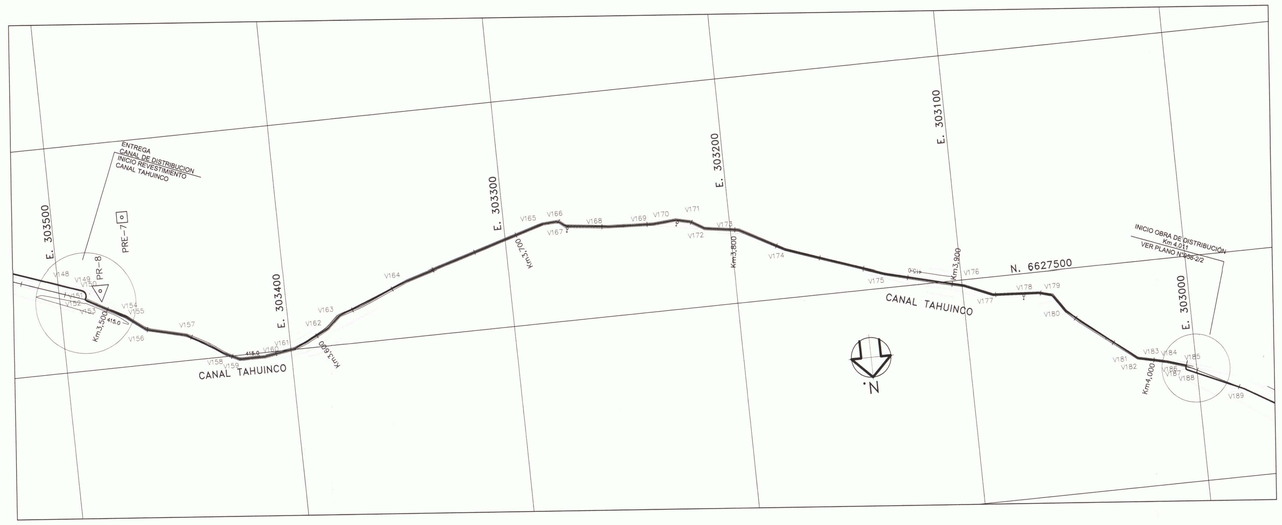
– TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS

GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISIÓN NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo		Título Plano: UNIFICACIÓN LA ISLA CANAL CARACOL 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: 057-4/6

UNIFICACION ISLA – CANAL TAHUINCO

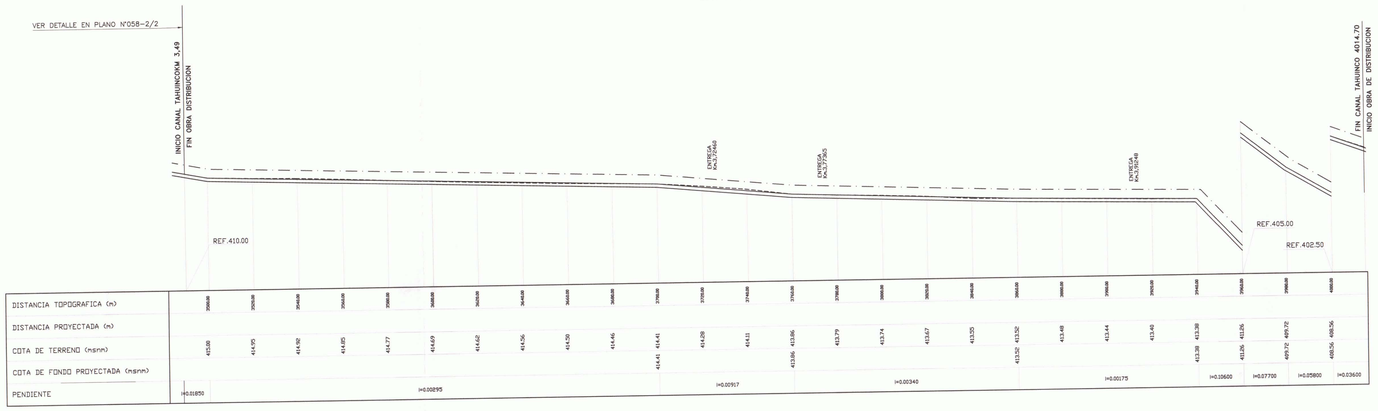
PLANTA GENERAL

ESC. 1:1000



PERFIL LONGITUDINAL

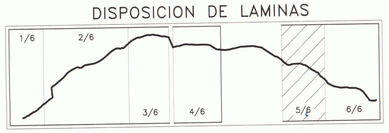
ESC. H=1:1000
ESC. V=1:100



CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
3.489	3.724	0.50	0.45	
3.724	3.760	0.50	0.45	
3.760	3.860	0.50	0.45	
3.860	3.912	0.50	0.45	
3.912	3.940	0.50	0.45	
3.940	3.960	0.50	0.45	
3.960	4.000	0.50	0.45	
4.000	4.014	0.50	0.45	

DISPOSICION DE LAMINAS



CUADRO DESARROLLO DE CURVAS Y VERTICES

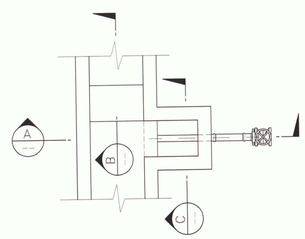
VERTICE N°	COORDENADAS ESTE	COORDENADAS NORTE	UBICACION VERTICE (m)	ANGULO (°)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
151	303486.528	6627465.977	4266.37	118.88	0	0.00	0.00	4264.4	4264.4
152	303488.802	6627468.326	4269.64	-118.05	0	0.00	0.00	4267.7	4267.7
153	303479.340	6627473.712	4280.53	-2.56	0	0.00	0.00	4278.6	4278.6
154	303471.787	6627477.630	4289.06	1.77	0	0.00	0.00	4287.1	4287.1
155	303471.604	6627477.720	4289.24	9.50	0	0.00	0.00	4287.3	4287.3
156	303462.999	6627484.324	4300.09	-26.14	2.5	0.52	1.03	4297.6	4298.6
157	303445.446	6627488.696	4318.18	19.70	2.5	0.38	0.77	4315.8	4316.6
158	303428.864	6627498.944	4337.67	-6.48	2.5	0.13	0.25	4335.6	4335.8
159	303423.074	6627501.757	4344.11	-28.40	2.5	0.57	1.13	4341.6	4342.7
160	303411.645	6627501.825	4355.54	-10.51	2.5	0.21	0.41	4353.5	4353.9
161	303398.232	6627499.572	4369.12	-17.87	2.5	0.35	0.70	4366.8	4367.5
162	303382.807	6627492.398	4386.18	-17.49	2.5	0.35	0.69	4383.8	4384.5
163	303376.634	6627487.204	4394.37	22.01	2.5	0.44	0.86	4391.9	4392.8
164	303345.415	6627474.948	4427.83	4.99	2.5	0.10	0.20	4425.7	4425.9
165	303282.787	6627456.194	4493.53	14.83	2.5	0.29	0.58	4490.8	4491.5
166	303275.630	6627455.781	4500.38	48.14	2.5	0.99	1.89	4497.4	4499.2
167	303272.728	6627458.218	4504.1	-37.18	2.5	0.75	1.48	4501.3	4502.7
168	303253.843	6627460.426	4523.38	-4.45	2.5	0.09	0.17	4521.1	4521.3
169	303233.993	6627461.316	4543.05	-7.98	2.5	0.16	0.31	4540.7	4541.0
170	303221.768	6627460.496	4553.31	19.43	2.5	0.38	0.76	4550.8	4551.5
171	303217.470	6627461.938	4558.77	19.73	2.5	0.39	0.77	4557.2	4558.0
172	303211.394	6627465.598	4566.95	-24.56	2.5	0.49	0.96	4564.3	4565.2
173	303198.121	6627467.881	4580.29	22.48	2.5	0.45	0.88	4579.6	4580.5
174	303176.548	6627479.633	4604.82	-10.32	2.5	0.20	0.41	4602.2	4602.6
175	303153.497	6627493.873	4650.29	-5.82	2.5	0.11	0.23	4648.0	4648.2
176	303098.915	6627502.660	4685.97	10.07	2.5	0.20	0.40	4683.6	4684.0
177	303086.692	6627507.930	4699.28	-21.91	2.5	0.43	0.86	4696.6	4697.5
178	303066.441	6627509.207	4719.57	13.78	2.5	0.25	0.50	4717.1	4717.6
179	303060.488	6627510.814	4725.74	43.75	2.5	0.94	1.80	4722.6	4724.4
180	303055.402	6627518.438	4734.90	-19.03	2.5	0.38	0.75	4732.2	4733.0
181	303035.715	6627542.813	4773.19	0.00	0	0.00	0.00	4770.9	4770.9
182	303035.199	6627542.751	4773.72	0.00	0	0.00	0.00	4771.4	4771.4
183	303018.671	6627544.244	4790.42	0.00	0	0.00	0.00	4788.1	4788.1
184	303012.738	6627545.618	4796.51	0.00	0	0.00	0.00	4794.2	4794.2
185	303004.509	6627548.154	4795.12	0.00	0	0.00	0.00	4792.8	4792.8

ENTREGAS PREDIALES

DETALLE DE ENTREGAS PREDIALES

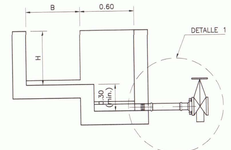
PLANTA

ESC. 1:25



SECCION A

ESC.1:25

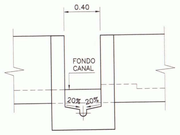


SECCION B

ESC.1:25

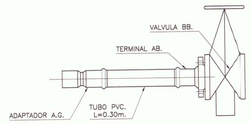
SECCION C

ESC.1:25



DETALLE 1

ESC. 1:10



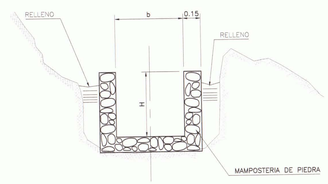
CUADRO DE ENTREGAS PREDIALES

CANAL TAHUINCO

Km.	DIMENSIONES(m) CANAL (m.) B	CANAL (m.) H	DIAMETRO ENTREGA (mm.)	GRADA (m.) a	GRADA (m.) b	COTAS FONDO EXIST.	COTAS FONDO PROY.
3,724600	0.50	0.45	0.75	0.05	0.50		414.18
3,773650	0.50	0.45	0.75	0.10	0.50		413.81
3,912480	0.50	0.45	0.75	0.05	0.50		413.43

SECCION TIPO

S/E



CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
08	6627465.18	303481.63	419.59

CUADRO DE PR. ESTACION

PRE N°	NORTE	ESTE	COTA
07	6627433.81	303468.59	441.55

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	

COTA GENERAL :

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: UNIFICACIÓN LA ISLA CANAL TAHUINCO PLANTAS Y PERFIL LONGITUDINAL

CONSULTOR: GCF Ingenieros Ltda.

Escala: Indicadas

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

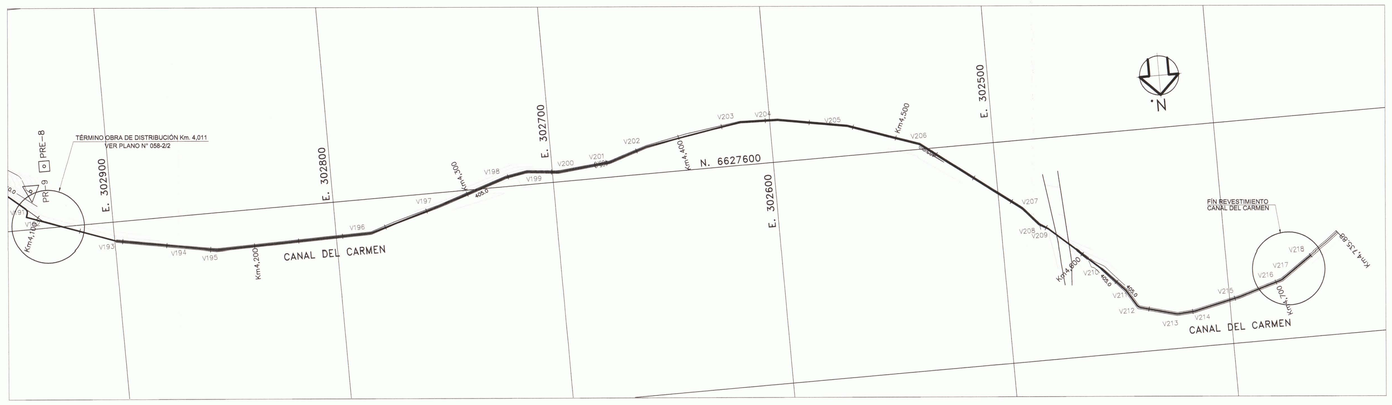
Fecha: FEBRERO 2010

Lámina: 057-5/6

UNIFICACION ISLA – CANAL DEL CARMEN

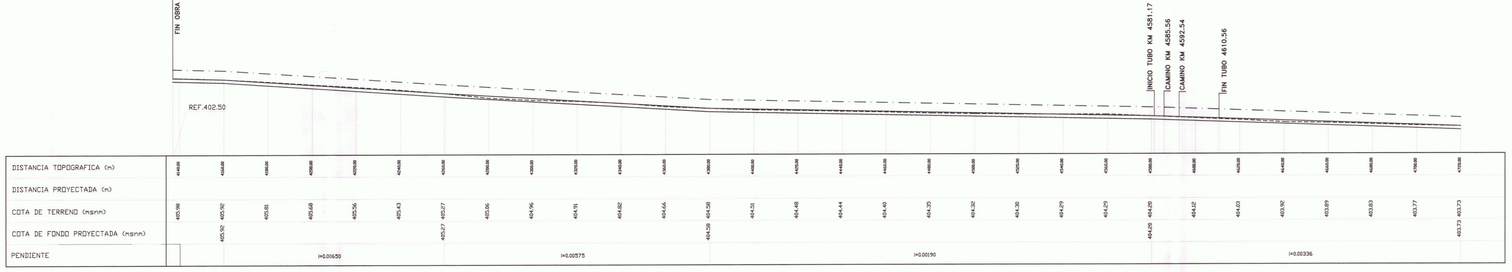
PLANTA GENERAL

ESC. 1:1000



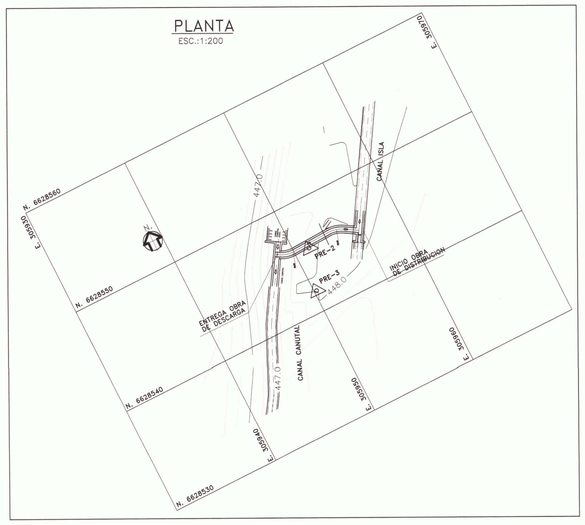
PERFIL LONGITUDINAL

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



| | | |

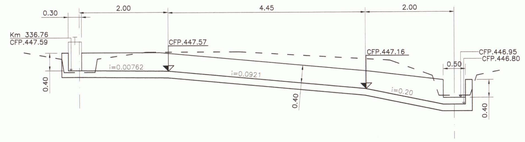
PLANTA
ESC.:1:200



UNIFICACION ISLA
OBRA DE DISTRIBUCION CANAL ISLA Km 0,33676

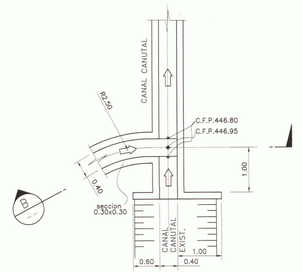
INICIO OBRA DE DISTRIBUCION
ESC.:1:50

PERFIL LONGITUDINAL
ESC. 1:50

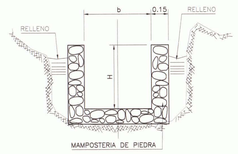


ENTREGA OBRA DE DESCARGA
ESC. 1:50

PLANTA
ESC. 1:50

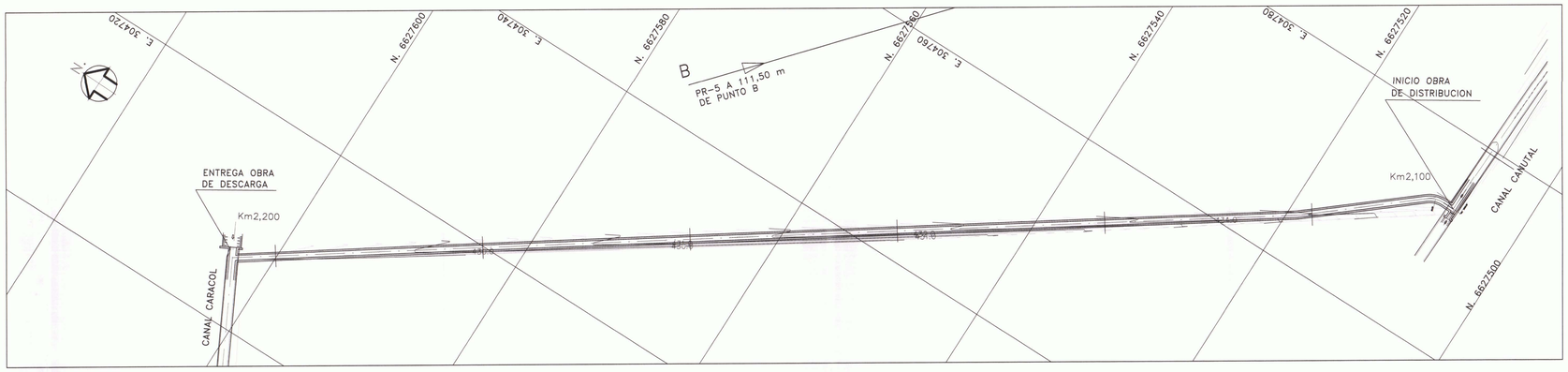


SECCION TIPO
S/E



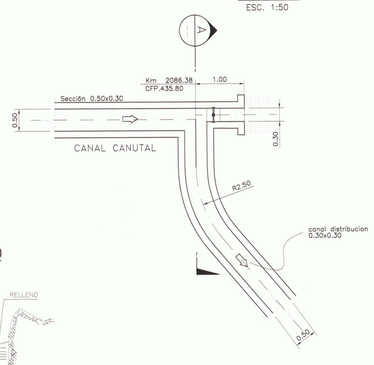
UNIFICACIÓN ISLA
OBRA DE DISTRIBUCIÓN CANAL ISLA Km.2,1

PLANTA
ESC.:1:200

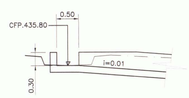


INICIO OBRA DE DISTRIBUCION

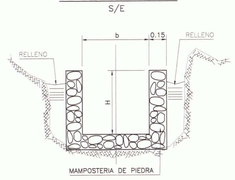
PLANTA
ESC. 1:50



SECCION A
ESC.1:50

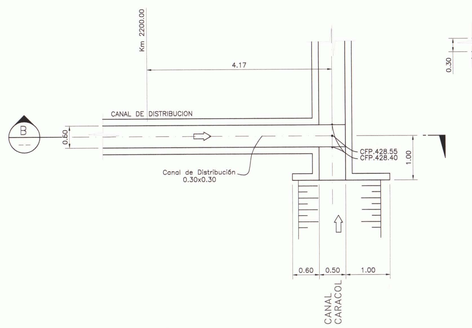


SECCION TIPO
S/E

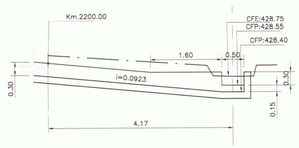


ENTREGA OBRA DE DESCARGA

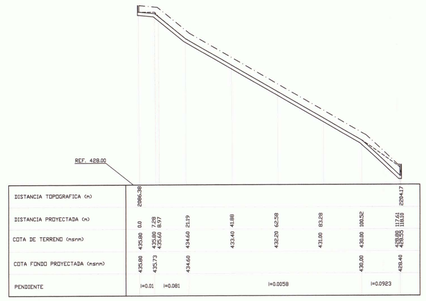
PLANTA
ESC. 1:50



SECCION B
ESC.1:50



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



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

CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
05	6627501.58	304827.41	440.66

CUADRO DE PR. ESTACON

PRE N°	NORTE	ESTE	COTA
02	6628545.64	305951.37	448.27
03	6628541.91	305950.24	448.20

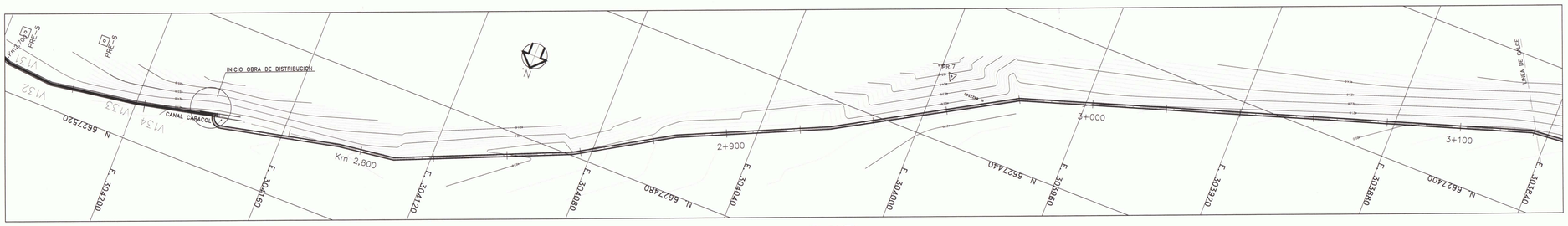
GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISION NACIONAL DE RIEGO

Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo			Título Plano: UNIFICACIÓN LA ISLA OBRA DE DISTRIBUCIÓN 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: 058-1/2

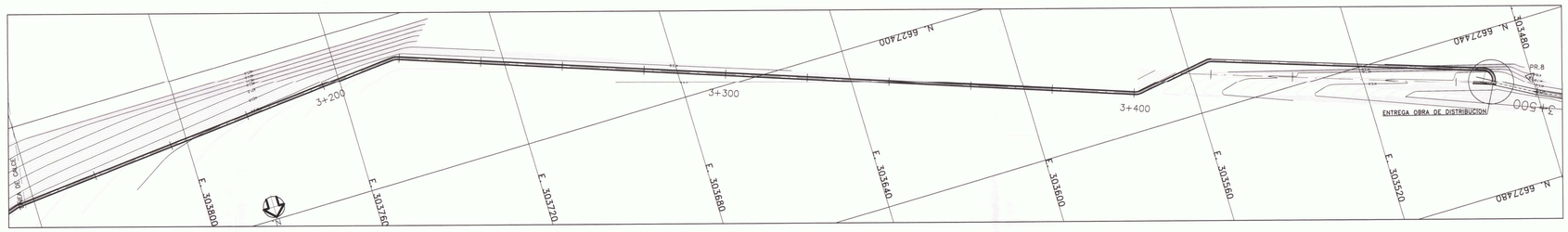
UNIFICACION ISLA

OBRA DE DISTRIBUCION CANAL CARACOL KM 2,75897

PLANTA
ESC.1:500



PLANTA
ESC.1:500



SECCION TIPO
S/E

PERFIL LONGITUDINAL
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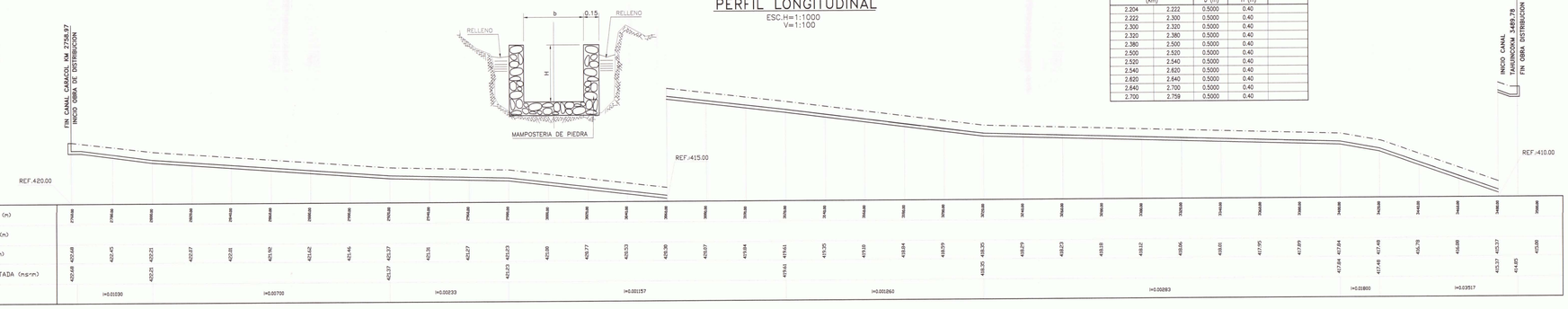
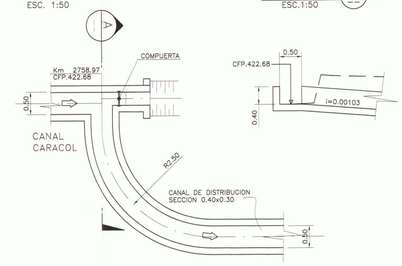


DISTANCIA TOPOGRAFICA (m)	2760,68	2780,68	2800,68	2820,68	2840,68	2860,68	2880,68	2900,68	2920,68	2940,68	2960,68	2980,68	3000,68	3020,68	3040,68	3060,68	3080,68	3100,68	3120,68	3140,68	3160,68	3180,68	3200,68	3220,68	3240,68	3260,68	3280,68	3300,68	3320,68	3340,68	3360,68	3380,68	3400,68	3420,68	3440,68	3460,68	3480,68
DISTANCIA PROYECTADA (m)																																			
COTA DE TERRENO (msnm)	422,68	422,45	422,21	422,07	421,86	421,76	421,62	421,46	421,37	421,26	421,27	421,23	421,06	420,77	420,53	420,30	420,07	419,84	419,61	419,35	419,10	418,84	418,59	418,35	418,29	418,23	418,18	418,12	418,06	418,01	417,95	417,89	417,84	417,48	416,78	416,68	415,37	414,85	415,00
COTA DE FONDO PROYECTADA (msnm)	422,68	422,45	422,21	422,07	421,86	421,76	421,62	421,46	421,37	421,26	421,27	421,23	421,06	420,77	420,53	420,30	420,07	419,84	419,61	419,35	419,10	418,84	418,59	418,35	418,29	418,23	418,18	418,12	418,06	418,01	417,95	417,89	417,84	417,48	416,78	416,68	415,37	414,85	415,00
PENDIENTE	I=0,0100			I=0,00700					I=0,00833				I=0,001157				I=0,001260				I=0,00283				I=0,01800			I=0,03517							

INICIO OBRA DE DISTRIBUCION

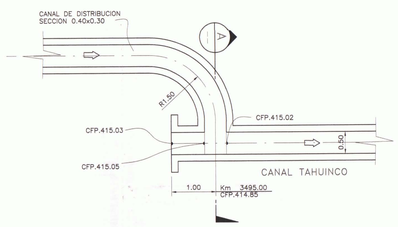
PLANTA
ESC. 1:50



SECCION A
ESC.1:50

ENTREGA OBRA DE DESCARGA

PLANTA
ESC. 1:50



SECCION A
ESC.1:50

CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
2.204	2.222	0.5000	0.40	
2.222	2.300	0.5000	0.40	
2.300	2.320	0.5000	0.40	
2.320	2.380	0.5000	0.40	
2.380	2.500	0.5000	0.40	
2.500	2.520	0.5000	0.40	
2.520	2.540	0.5000	0.40	
2.540	2.620	0.5000	0.40	
2.620	2.640	0.5000	0.40	
2.640	2.700	0.5000	0.40	
2.700	2.759	0.5000	0.40	

CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
07	6627422.40	303996.63	426.60
08	6627465.18	303481.63	419.59

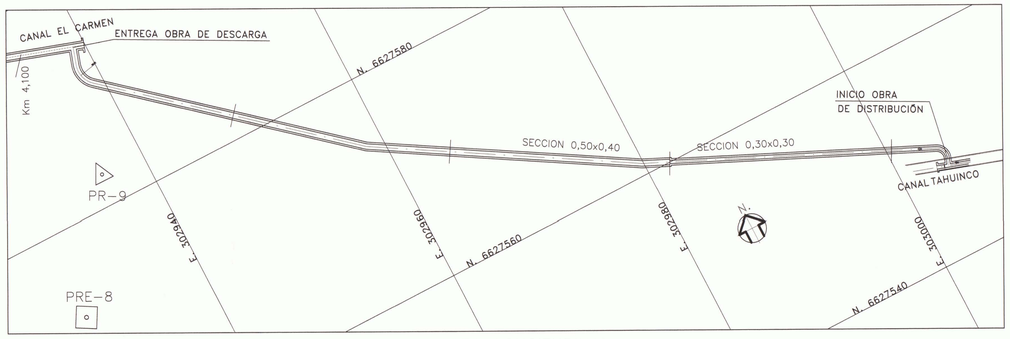
CUADRO DE PR.ESTACION

PRE N°	NORTE	ESTE	COTA
05	6627503.06	304235.09	432.86
06	6627497.80	304214.09	434.06

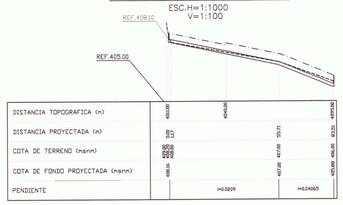
UNIFICACION ISLA

OBRA DE DISTRIBUCION CANAL TAHUINCO Km 4,011

ESC.1:200



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



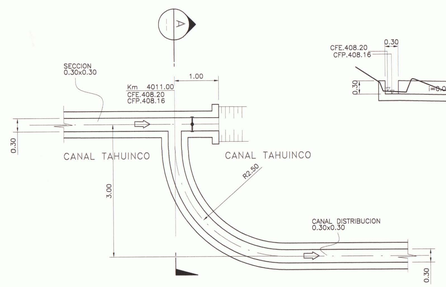
DISTANCIA TOPOGRAFICA (m)	4011,00	4040,00	4095,00
DISTANCIA PROYECTADA (m)	0,00	29,00	84,00
COTA DE TERRENO (msnm)	408,20	407,90	405,98
COTA DE FONDO PROYECTADA (msnm)	408,16	407,86	405,88
PENDIENTE	I=0,0209	I=0,04065	

SIMBOLOGIA

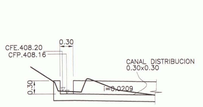
CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	V0	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

INICIO OBRA DE DISTRIBUCION

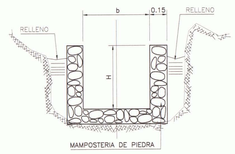
PLANTA
ESC. 1:50



SECCION A
ESC.1:50

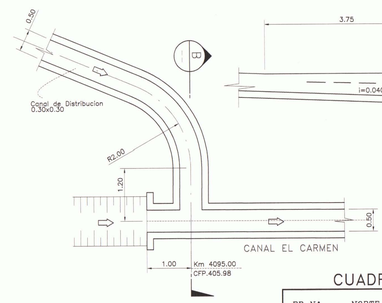


SECCION TIPO
S/E

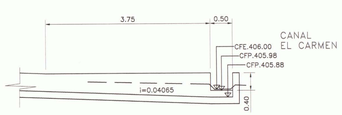


ENTREGA OBRA DE DESCARGA

PLANTA
ESC. 1:50



SECCION B
ESC.1:50



CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
09	6627582.77	302935.88	415.86

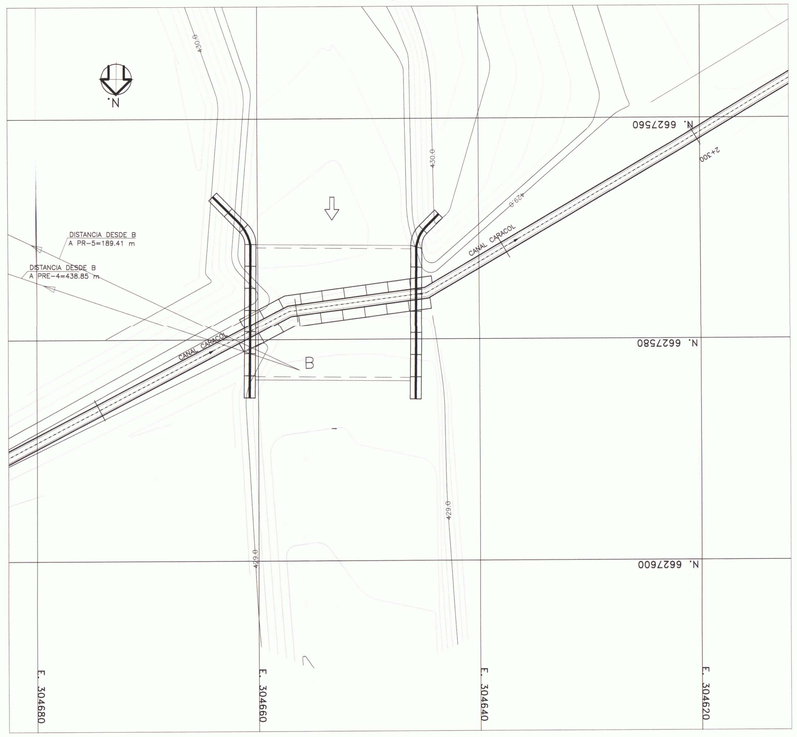
CUADRO DE PR.ESTACION

PRE N°	NORTE	ESTE	COTA
08	6627572.03	302928.68	421.74

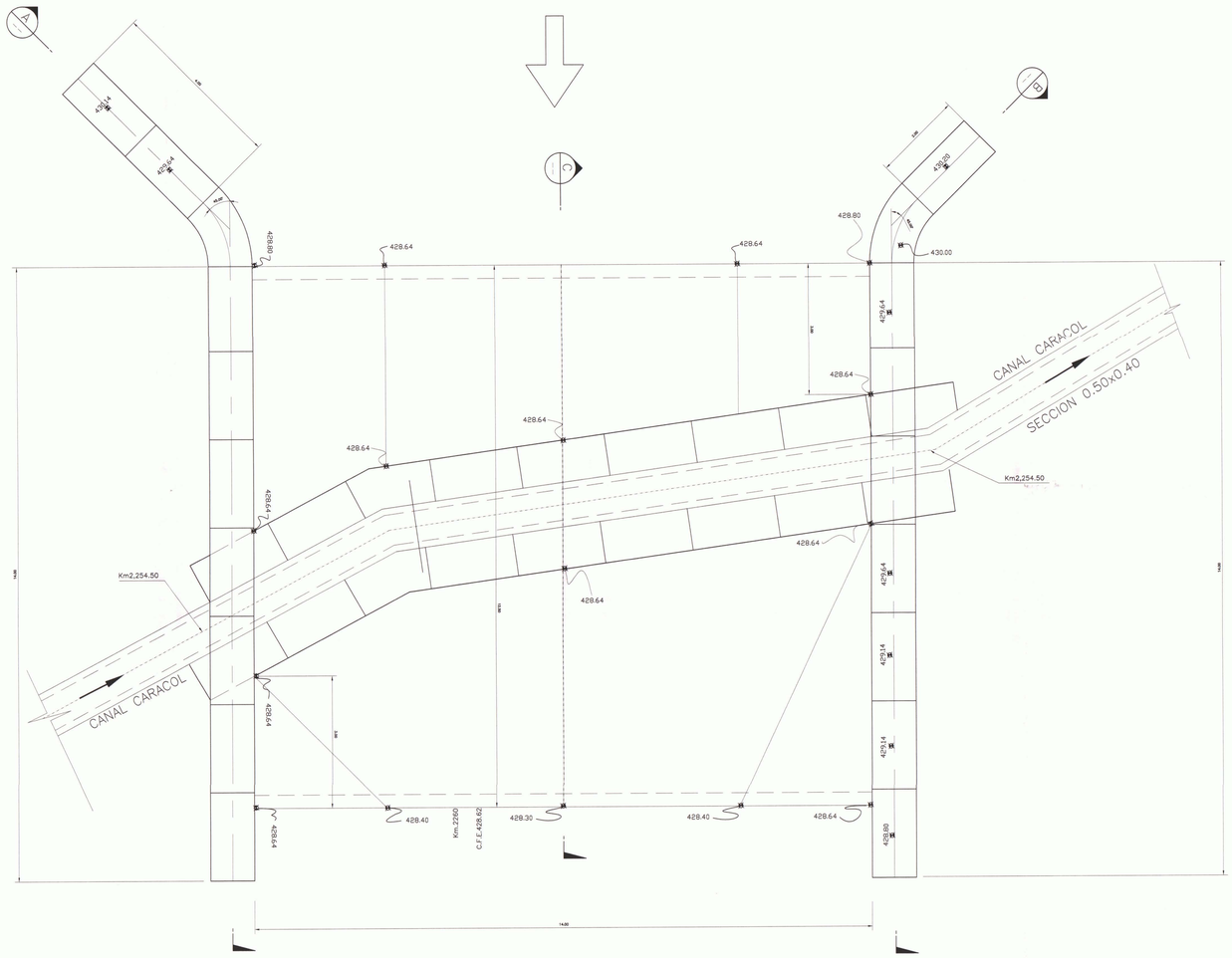
GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISION NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo	Título Plano: UNIFICACIÓN LA ISLA OBRA DE CAPTACIÓN PLANTAS Y DETALLES	
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010
			Lámina: 058-2/2

UNIFICACION ISLA – CANAL CARACOL
DETALLE CRUCE QUEBRADA BULRREME

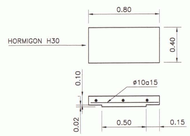
UNIFICACION ISLA – CANAL CARACOL
CRUCE DE QUEBRADA BULRREME
PLANTA
ESC. 1:200



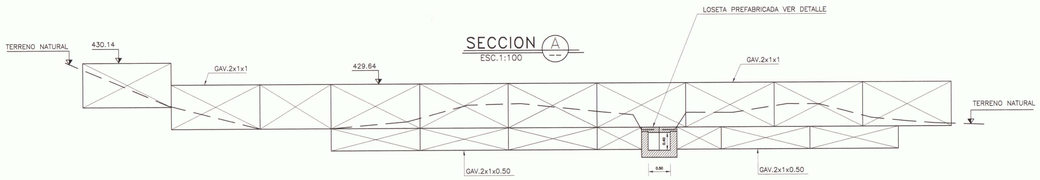
PLANTA
ESC. 1:100



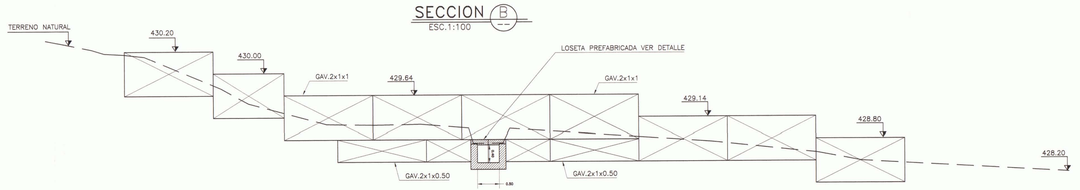
DETALLE LOSETAS
ESC. 1:25



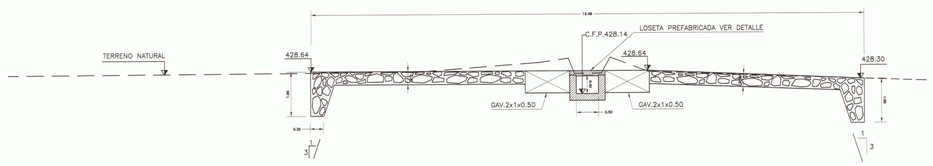
SECCION A
ESC.1:100



SECCION B
ESC.1:100



SECCION C
ESC.1:100



CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
05	6627501.58	304827.40	440.66

CUADRO DE PR. ESTACION

PRE N°	NORTE	ESTE	COTA
04	6627553.79	304741.78	429.46

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

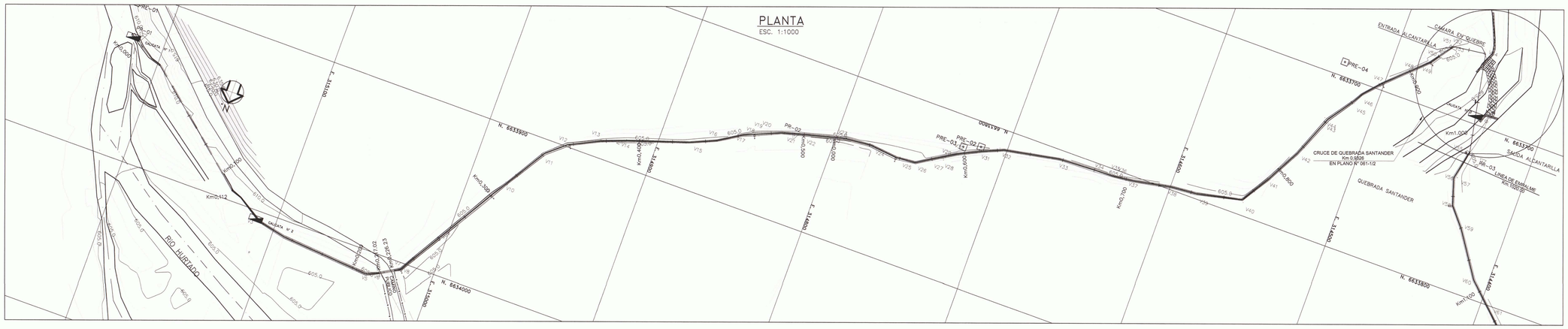
Título Plano
UNIFICACIÓN LA ISLA
CRUCE DE QUEBRADAS
PLANTA Y SECCIONES

Fecha
FEBRERO 2010

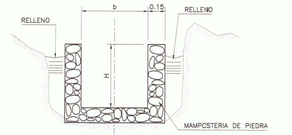
Lámina:
059-1/1

CANAL LAS VERTIENTES

PLANTA
ESC. 1:1000



SECCION TIPO
S/E



CALICATA N° 1
Km 0,000

GRAVA DE ORIGEN FLUVIAL EN MATRIZ ARENOSA, ESTRATO COLOR GRIS, HUMEDAD MEDIA, COMPACIDAD MEDIA, CLASTOS SANOS Y ANGULOSOS DE TAMAÑO MAXIMO 25"

1.20

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

SE DETECTO LA PRESENCIA DE LA NAPA FREATICA A 1.20 DE PROFUNDIDAD EN LA FECHA DE EXPLORACION

CALICATA N° 2
Km 0,15431

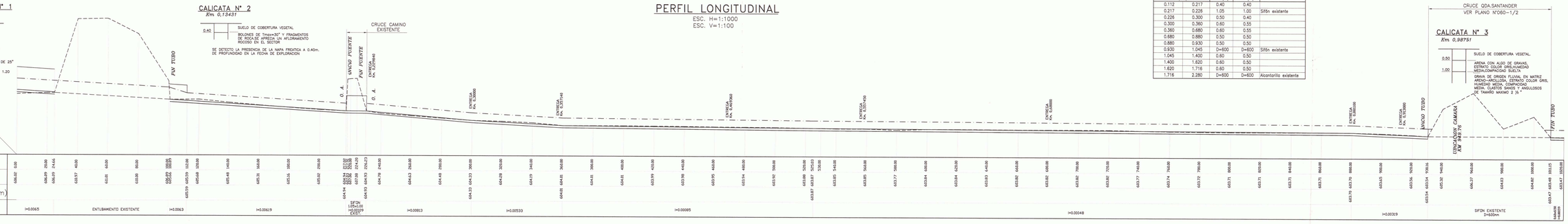
0.40

SUELO DE COBERTURA VEGETAL

BOLONES DE Tmax=30" Y FRAGMENTOS DE ROCA.SE APRECIA UN AFLORAMIENTO ROCOSO EN EL SECTOR

SE DETECTO LA PRESENCIA DE LA NAPA FREATICA A 0.40m. DE PROFUNDIDAD EN LA FECHA DE EXPLORACION

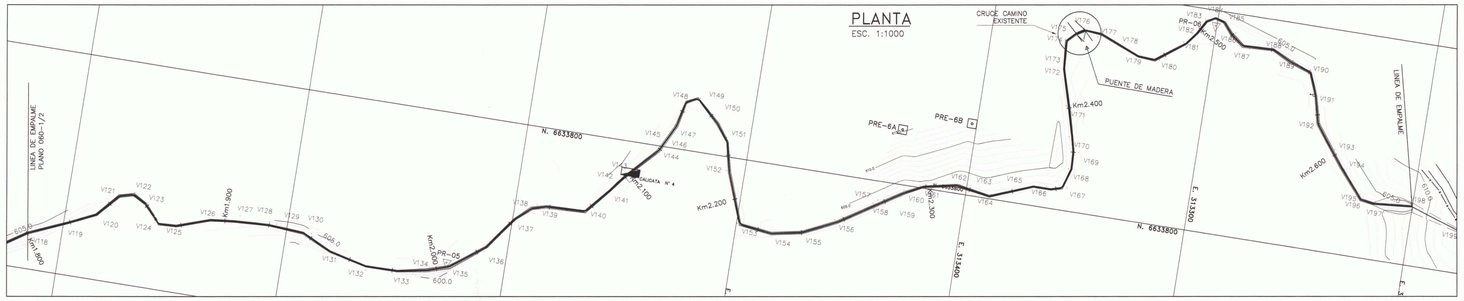
PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. V=1:100



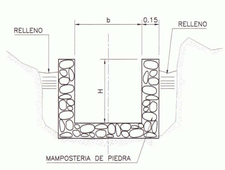
| | | |

CANAL LAS VERTIENTES

PLANTA
ESC. 1:1000



SECCION TIPO
S/E



CUADRO DE PR.

PR Nº	NORTE	ESTE	COTA
05	6633867.10	313626.43	603.15
06	6633706.92	313300.60	602.83
07	6633824.25	313910.21	604.13
08	6633973.14	313558.82	602.51
09	6633841.93	312339.26	599.96

CUADRO DE PR.ESTACION

PRE Nº	NORTE	ESTE	COTA
6A	6633775.39	313432.64	615.34
6B	6633767.55	313402.36	613.02
07	6633747.47	313712.56	617.79
08	6633749.60	313162.05	617.36

CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
1.716	2.280	D=600	D=600	Alcantarillo existente
2.280	2.646	0.60	0.55	
2.646	2.891	0.70	0.60	Tunel existente
2.891	3.500	0.50	0.50	
3.500	3.940	0.50	0.50	
3.940	4.249	0.50	0.50	

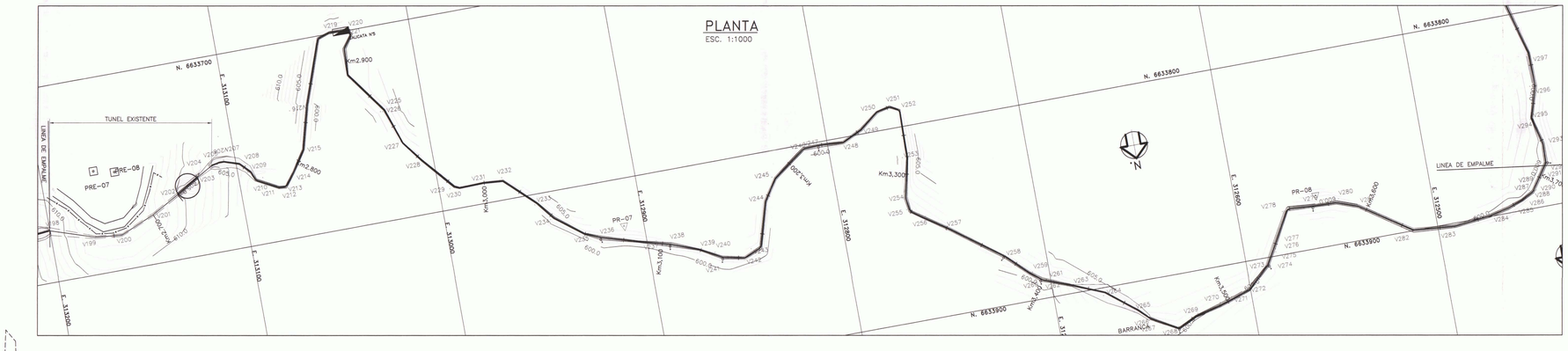
CALICATA Nº 4
Km 2.103.14

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

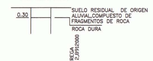
CUADRO DE ENTREGAS PREDIALES
CANAL LAS VERTIENTES

Km.	DIMENSIONES CANAL B (m)	DIMENSIONES 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.
2.570440	0.60	0.55	75	0.20	0.50		601.83
2.891200	0.70	0.60	75	0.15	0.50		601.66
3.068990	0.50	0.50	75	0.10	0.50		601.23
3.103620	0.50	0.50	75	0.10	0.50		601.14
3.151620	0.50	0.50	75	0.10	0.50		601.07
3.217690	0.50	0.50	75	0.10	0.50		600.96
3.372420	0.50	0.50	75	0.10	0.50		600.47
3.376050	0.50	0.50	75	0.10	0.50		600.46
3.417720	0.50	0.50	75	0.05	0.50		600.07
3.528000	0.50	0.50	75	0.10	0.50		599.62
3.571550	0.50	0.50	75	0.10	0.50		599.67

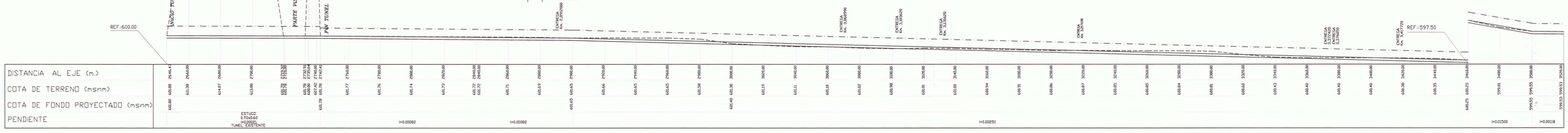
PLANTA
ESC. 1:1000

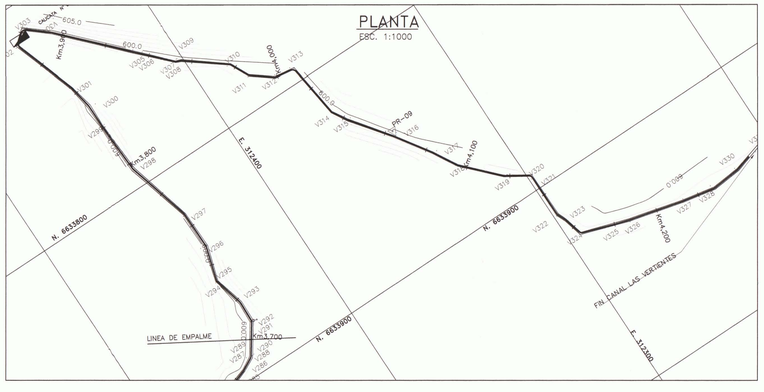


CALICATA Nº 5
Km 2.876.53



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





CALICATA Nº 6
Km 3.877.06

PERFIL LONGITUDINAL
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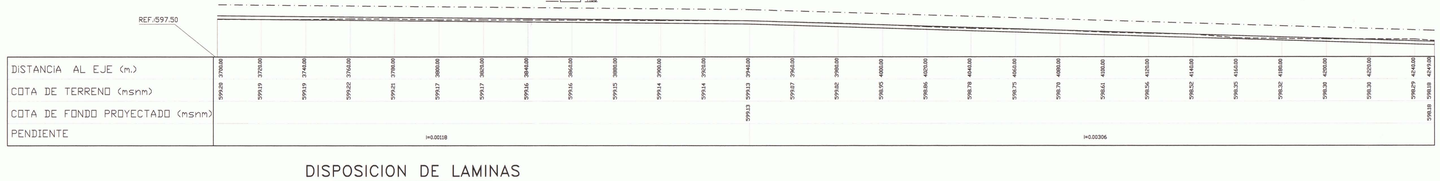
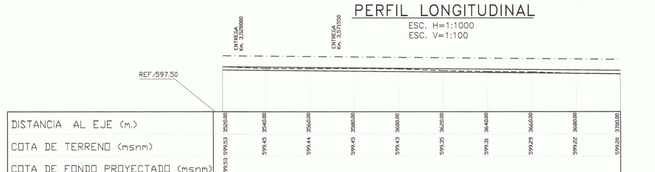
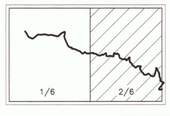
ESC. V=1:100



PERFIL LONGITUDINAL
ESC. H=1:1000
ESC. 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	

NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS
- DETALLES ENTREGAS PREDIALES VER PLANO Nº064-2/2

CUADRO DESARROLLO CURVAS Y VERTICES

VERTICE Nº	COORDENADAS UBICACION ESTE (m)	NORTE (m)	VERTICE	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
118	313815.388	6633884.038	1689.19	11.17	2.5	0.22	0.44	1686.1	1686.6
119	313798.863	6633876.898	1701.19	-2.10	2.5	0.04	0.08	1704.1	1704.4
120	313786.115	6633870.883	1721.28	-25.05	2.5	0.50	0.98	1718.0	1718.9
121	313777.229	6633867.857	1734.82	37.06	2.5	0.73	1.46	1733.2	1733.7
122	313770.851	6633859.392	1741.19	48.13	2.5	0.99	1.89	1737.3	1739.2
123	313765.077	6633852.448	1747.79	19.68	2.5	0.39	0.77	1744.4	1745.2
124	313757.453	6633870.502	1756.89	-54.58	2.5	1.14	2.14	1754.8	1756.9
125	313744.529	6633870.148	1766.83	-18.12	2.5	0.36	0.71	1765.1	1765.8
126	313734.521	6633860.031	1782.67	14.40	2.5	0.28	0.57	1779.3	1779.8
127	313722.378	6633863.858	1793.41	3.33	2.5	0.07	0.13	1790.3	1790.5
128	313709.624	6633863.206	1807.64	0.00	0	0.00	0.00	1804.5	1804.5
129	313709.242	6633863.136	1809.02	-1.39	2.5	0.03	0.06	1805.1	1805.0
130	313692.361	6633864.184	1824.94	24.18	2.5	0.49	0.96	1821.5	1822.4
131	313679.000	6633870.558	1839.74	-13.61	2.5	0.27	0.53	1836.3	1836.9
132	313662.102	6633874.543	1857.10	-15.34	2.5	0.30	0.60	1853.7	1854.3
133	313647.738	6633874.409	1871.47	-11.14	2.5	0.22	0.44	1868.1	1868.5
134	313634.766	6633871.991	1884.66	-8.21	2.5	0.16	0.32	1881.6	1881.9
135	313624.994	6633868.822	1894.94	-21.09	2.5	0.42	0.83	1891.4	1892.2
136	313609.671	6633867.308	1914.10	-18.42	2.5	0.37	0.72	1910.6	1911.3
137	313598.982	6633862.859	1930.08	13.50	2.5	0.27	0.53	1928.8	1929.2
138	313582.233	6633858.922	1941.07	28.53	2.5	0.57	1.12	1938.5	1939.6
139	313585.812	6633835.122	1947.73	14.96	2.5	0.30	0.59	1944.3	1944.8
140	313568.136	6633834.442	1965.43	-52.80	2.5	1.06	2.07	1961.1	1963.2
141	313558.818	6633853.216	1980.14	-2.16	2.5	0.04	0.08	1978.8	1978.9
142	313553.856	6633816.999	1987.98	8.34	2.5	0.17	0.33	1984.5	1984.8
143	313553.771	6633816.905	1988.10	0.02	0	0.00	0.00	1984.8	1984.8
144	313540.180	6633802.392	2008.00	-0.01	0	0.00	0.00	2004.7	2004.7
145	313540.154	6633802.381	2008.01	0.13	0	0.00	0.00	2004.7	2004.7
146	313539.903	6633802.119	2008.37	-18.24	0	0.00	0.00	2005.1	2005.1
147	313533.717	6633789.808	2022.06	-15.57	2.5	0.31	0.61	2018.1	2018.7
148	313531.153	6633778.842	2033.61	55.26	2.5	1.16	2.17	2029.1	2031.3
149	313526.132	6633778.026	2039.27	78.66	2.5	1.76	3.09	2034.0	2037.1
150	313515.579	6633786.007	2053.79	10.43	2.5	0.21	0.41	2049.7	2050.1
151	313509.907	6633793.462	2063.16	28.83	2.5	0.54	1.06	2058.7	2059.7
152	313508.848	6633806.708	2078.75	-8.60	2.5	0.17	0.34	2077.6	2077.9
153	313498.329	6633826.174	2100.78	-68.99	2.5	1.50	2.71	2095.3	2098.0
154	313483.147	6633831.001	2113.47	-20.16	2.5	0.42	0.79	2111.8	2112.6
155	313470.083	6633828.346	2129.39	-16.24	2.5	0.32	0.64	2124.8	2125.5
156	313455.227	6633821.223	2145.87	-7.91	2.5	0.15	0.31	2141.7	2141.8
157	313438.916	6633810.735	2165.26	-0.08	0	0.00	0.00	2161.0	2161.0
158	313438.905	6633810.728	2165.27	0.67	0	0.00	0.00	2161.0	2161.0
159	313438.863	6633810.721	2165.29	0.07	0	0.00	0.00	2161.0	2161.0
160	313427.277	6633803.423	2179.01	5.88	2.5	0.23	0.46	2174.9	2175.3
161	313419.143	6633799.321	2188.12	17.34	2.5	0.34	0.68	2183.5	2184.2
162	313414.408	6633796.414	2193.13	22.85	2.5	0.43	0.86	2188.0	2188.9
163	313399.604	6633797.211	2208.00	0.00	0	0.00	0.00	2203.7	2203.7
164	313388.535	6633798.929	2218.50	-34.43	2.5	0.69	1.35	2214.8	2216.1
165	313376.398	6633791.481	2238.71	23.72	2.5	0.46	0.91	2234.0	2234.9
166	313362.293	6633791.448	2246.88	-17.27	2.5	0.34	0.68	2242.2	2242.9
167	313351.330	6633790.095	2252.03	-64.39	2.5	1.28	2.53	2246.8	2249.3
168	313354.673	6633780.932	2261.52	-20.69	2.5	0.41	0.81	2256.6	2257.4
169	313354.944	6633773.080	2269.38	-12.77	2.5	0.25	0.50	2264.5	2265.1
170	313356.670	6633768.270	2276.40	-1.49	2.5	0.03	0.06	2271.8	2271.9
171	313356.887	6633764.401	2288.69	-1.44	2.5	0.03	0.06	2284.1	2284.2
172	313360.028	6633757.608	2306.81	-13.84	2.5	0.27	0.54	2302.2	2302.5
173	313365.696	6633754.696	2313.10	-1.00	2.5	0.02	0.04	2308.5	2308.5
174	313365.921	6633724.228	2319.64	53.78	2.5	1.12	2.11	2313.9	2316.1
175	313358.152	6633720.358	2325.03	19.33	2.5	0.39	0.77	2321.3	2322.1
176	313358.182	6633718.240	2329.54	35.79	2.5	0.73	1.43	2325.8	2327.2
177	313350.820	6633718.143	2336.92	20.23	2.5	0.40	0.79	2333.5	2334.3
178	313337.733	6633716.054	2349.06	0.00	0	0.00	0.00	2345.6	2345.6
179	313332.863	6633708.009	2356.27	-19.86	2.5	0.38	0.78	2351.2	2351.9
180	313326.383	6633708.086	2363.80	-45.50	2.5	0.79	1.58	2358.1	2359.7
181	313312.569	6633707.034	2379.78	-17.56	2.5	0.34	0.68	2374.6	2375.3
182	313306.222	6633701.404	2386.90	-7.98	2.5	0.15	0.31	2381.7	2382.0
183	313304.748	6633700.427	2393.72	32.22	2.5	0.65	1.27	2388.3	2389.5
184	313301.211	6633703.457	2397.81	52.64	2.5	1.10	2.07	2392.5	2394.6
185	313296.848	6633704.751	2402.39	36.97	2.5	0.75	1.45	2397.1	2398.1
186	313292.810	6633709.644	2408.70	-14.38	2.5	0.28	0.56	2403.4	2404.0
187	313287.046	6633714.034	2415.94	-44.11	2.5	0.90	1.73	2410.0	2411.8
188	313272.081	6633713.447	2429.82	37.47	2.5	0.75	1.48	2423.7	2425.1
189	313264.972	6633717.568	2439.06	-8.87	2.5	0.17	0.34	2435.8	2436.1
190	313254.823	6633721.053	2449.74	54.36	2.5	1.14	2.13	2443.5	2445.6
191	313250.846	6633730.867	2460.33	8.16	2.5	0.16	0.32	2454.9	2455.3
192	313247.809	6633743.219	2473.05	-24.98	2.5	0.50	0.96	2467.3	2468.3
193	313240.987	6633752.508	2484.58	-1.05	2.5	0.02	0.04	2479.1	2479.1
194	313234.467	6633761.086	2495.35	-3.51	2.5	0.07	0.14	2490.0	2490.2
195	313225.583	6633771.524	2509.06	0.00	0	0.00	0.00	2503.8	2503.8
196	313223.532	6633773.948	2512.24	-45.58	0	0.00	0.00	2507.0	2507.0
197	313217.510	6633774.882	2518.33	-15.38	0	0.00	0.00	2513.1	2513.1
198	313200.398	6633773.384	2535.53	25.89	0	0.00	0.00	2530.3	2530.3
199	313177.686	6633780.986	2558.42	-13.78	0	0.00	0.00	2554.2	2554.2
200	313164.118	6633782.282	2572.07	-31.79	0	0.00	0.00	2567.8	2567.8
201	313146.492	6633774.913	2592.17	-6.82	0	0.00	0.00	2588.9	2588.9
202	313132.373	6633767.072	2608.37	-1.87	0	0.00	0.00	2605.1	2605.1
203	313120.614	6633760.144	2621.97	1.32	0	0.00	0.00	2618.7	2618.7
204	313112.615	6633755.629	2631.16	0.01	0	0.00	0.00	2627.9	2627.9
205	313112.415	6633750.518	2631.39	19.79	0	0.00	0.00	2628.1	2628.1
206	313108.449	6633754.700	2635.44	13.90	0	0.00	0.00	2632.1	2632.1
207	313105.935	6633754.739	2637.95	19.08	0	0.00	0.00	2634.6	2634.6
208	313098.302	6633757.229	2645.88	31.52	0	0.00	0.00	2642.1	2642.1
209	313093.301	6633762.487	2653.24	23.90	0	0.00	0.00	2647.5	2648.4
210	313091.488	6633768.965	2658.08	-44.18	2.5	0.94	1.74	2654.2	2655.9
211	313081.798	6633772.155	2669.06	0.00	0	0.00	0.00	2663.7	2663.7
212	313080.498	6633772.852	2670.53	-26.62	2.5	0.53	1.05	2664.6	2665.7
213	313076.802	6633773.125	2674.24	-43.92	2.5	0.86	1.70	2668.3	2670.0
214	313071.633	6633768.321	2682.78	-3.91	2.5	0.08	0.15	2677.1	2677.2
215	313064.198	6633756.026	2693.14	-20.95	2.5	0.41	0.81	2689.1	2689.9
216	313058.864	6633733.847	2718.01	5.38	2.5	0.10	0.21	2712.5	2712.5
217	313048.460	6633704.700	2746.06	0.00	0	0.00	0.00	2740.6	2740.6
218	313047.282	6633701.401	2752.56	58.06	2	0.89	1.82	2746.0	2747.8
219	313046.878	6633699.308	2759.30	23.20	2	0.37	0.74	2752.9	2753.6
220	313031.410	6633699.764	2788.78	70.46	2	1.24	2.21	2781.8	2784.0
221	313030.348	6633703.361	2771.66	68.68	2	1.16	2.09	2769.4	2771.5
222	313034.995	6633708.883	2779.70	-37.16	2	0.60	1.17	2772.8	2774.0
223	313035.444	6633718.231	2786.06	0.00	0	0.00	0.00	2779.2	2779.2
224	313035.647	6633722.463	2793.29	-43.12	2.5	0.88	1.69	2786.5	2787.8
225	313032.178	6633740.966	2815.18	0.00	0	0.00	0.00	2808.8	2808.8
226	313029.327	6633743.505	2819.32	18.88	2.5	0.38	0.75	2812.9	2813.7
227	313014.044	6633781.778	2838.64	-20.46	2.5	0.41	0.80	2831.9	2832.7
228	313005.896	6633772.438	2852.06	-3.54	2.5	0.14	0.28	2845.0	2845.3
229	312991.967	6633788.701	2873.47	-27.39	2.5	0.56	1.08	2866.6	2867.6
230	312989.401	6633789.886	2876.30	-29.48	2.5	0.60	1.16	2869.4	2870.5
231	312978.998	6633789.506	2888.71	6.81	2.5	0.13	0.27	2882.2	2882.4
232	312966.113	6633914.266	2908.73	43.78	2.5	0.90	1.72	2902.8	2904.5
233	312951.894	6633804.157	2919.66	7.94	2.5	0.16	0.31	2913.0	2913.3
234	312944.515	6633813.846	2931.37	-14.17	2.5	0.28	0.56	2924.8	2925.2
235	312930.928	6633824.537	2948.66	-16.71	2.5	0.33	0.66	2941.9	2942.5
236	312922.423	6633828.173	2957.91	-7.57	2.5	0.15	0.30	2951.3	2951.6
237	312904.250	6633833.498	2978.84	-1.01	2.5	0.02	0.04	2972.2	2972.2
238	312888.315	6633837.897	2993.38	5.82	2.5	0.11	0.23	2986.8	2987.0
239	312874.206	6633843.198	3008.40	9.36	2.5	0.18	0.37	3001.7	3002.1
240	312867.461	6633846.982	3016.18	0.00	0	0.00	0.00	3009.7	3009.7
241	312863.368	6633848.256	3020.86	-18.84	2.5	0.37	0.74	3014.6	3015.4
242	312852.240	6633851.632	3033.24	-38.55	2.5	0.78	1.51	3029.0	3026.5
243	312844.131	6633847.870	3042.00	-58.72	2.5	1.19	2.33	3034.3	3036.6
244	312836.557	6633825.248	3065.78	-19.32	2.5	0.38	0.76	3058.7	3059.5
245	312829.538	6633814.519	3078.43	22.44	2.5	0.45	0.88	3071.3	3072.2
246	312817.502	6633802.086	3099.53	37.57	2.5	0.76	1.48	3092.1	3093.5
247	312804.432	6633801.785	3107.80	6.58	2.5	0.13	0.26	3100.7	3101.0
248	312791.822	6633802.565	3120.23	-32.11	2.5	0.64	1.26	3117.8	3119.1
249	312781.891	6633797.874	3131.22	-13.77	2.5	0.27	0.54	3124.2	3124.7
250	312772.108	6633790.321	3143.58	28.85	2.5	0.57	1.13	3136.2	3137.4
251	312765.249	6633788.900	3150.58	46.30	2.5	0.95	1.82	3142.8	3144.6
252	312760.466	6633781.858	3156.10	68.09	2.5	1.48	2.67	3147.3	3150.1
253	312761.003	6633816.228	3180.68	12.97	2.5	0.26	0.51	3173.3	3173.8
254	312765.604	6633838.275	3201.25	-23.01	2.5	0.46	0.90	3193.9	3194.8
255	312764.634	6633843.388	3208.40	-51.71	2.5	1.07	2.03	3200.1	3202.2
256	312758.515	6633847.864	3216.11	-1.31	2.5	0.03	0.05	3208.8	3208.8
257	312748.575	6633856.215	3229.90	2.53	2.5	0.05	0.10	3222.6	3222.7
258	312721.047	6633875.051	3262.30	8.10	2.5	0.16	0.32	3254.8	3255.2
259	312710.187	6633885.604	3277.44	-6.58	2.5	0.13	0.26	3270.0	3270.2
260	312704.133	6633890.319	3285.11	-19.00	2.5	0.38	0.75	3277.4	3278.2
261	312703.138	6633895.454	3290.49	0.00	0	0.00	0.00	3282.8	3282.8
262	312700.453	6633891.730	3289.05	-0.18	0	0.00	0.00	3281.7	3281.7
263	312688.356	6633894.157	3304.12	2.08	2.5	0.04	0.08	3296.8	3296.9
264	312673.782	6633902.492	3317.82	17.46	2.5	0.34	0.69	3310.2	3310.8
265	312658.571	6633914.374	3337.24	-7.88	2.5	0.15	0.31	3329.6	3329.7
266	312653.422	6633919.791	3344.57	-17.28	2.5	0.34	0.68	3336.8	3337.6
267	312644.534	6633928.005	3355.96	-4.40	2.5	0.09	0.17	3348.2	3348.4
268	312639.785	6633927.823	3360.31	-60.77	2.5	1.29	2.39	3351.7	3354.1
269	312629.985	6633923.087	3371.09	12.98	2.5	0.25	0.49	3363.3	3363.8
270	312616.406	6633919.815	3385.06	-4.40	2.5	0.09	0.17	3377.2	3377.4
271	312609.882	6633917.756	3391.90	-1.25	2.5	0.02	0.05	3384.4	3384.4
272	312600.445	6633914.574	3401.86	-27.87	2.5	0.59	1.09	3393.8	3394.4
273	312580.147	6633904.727	3416.11	3.88	2.5	0.08	0.15	3408.5	3408.6
274	312569.253	6633903.971	3427.28	-22.10	2.5	0.47	0.87	3419.3	3420.1
275	312585.228	6633898.962	3425.36	0.04	0	0.00	0.00	3417.8	3417.8
276	312585.229	6633898.954	3425.37	-0.10	0	0.00	0.00	3417.8	3417.8
277	312585.214	6633896.943	3425.39	0.04	0	0.00	0.00	3417.8	3417.8
278	312574.178	6633877.268	3447.62	71.87	2.5	1.59	2.83	3438.8	3441.6
279	312560.698	6633878.263	3461.43	-1.85	2.5	0.04	0.07	3453.5	3453.6
280	312548.848	6633878.787	3473.29	19.12	2.5	0.38	0.75	3465.0	3465.8
281	312535.098	6633882.805	3484.71	15.95	2.5	0.33	0.65	3476.5	3477.1
282	312512.650	6633889.785	3515.40	-32.23	2.5	0.65	1.27	3506.9	3508.1
283	312491.254	6633901.632	3536.89	-12.26	2.5	0.25	0.48	3528.3	3528.8
284	312473.203	6633899.718	3555.03	-6.96	2.5	0.14	0.27	3547.0	3547.2
285	312462.468	6633897.379	3566.02	-7.42	2.5	0.15	0.29	3557.3	3558.3
286	312454.953	6633894.789	3573.97	-9.97	2.5	0.20	0.39	3565.8	3566.2
287	312448.760	6633891.496	3580.39	-30.74	2.5	0.62	1.21	3572.8	3573.8
288	312448.403	6633890.988	3581.60	0.04	0	0.00	0.00	3573.6	3573.6
289	312448.339	6633890.889	3581.73	-0.48	2	0.01	0.02	3573.8	3573.8
290	312448.330	6633890.881	3581.73	0.97	0	0.00	0.00	3573.8	3573.8
291	312448.324	6633890.874	3581.74	-0.27	0	0.00	0.00	3573.8	3573.8
292	312439.481	6633878.548	3597.24	-36.33	2.5	0.74	1.44	3588.6	3589.4
293	312439.118	6633868.268	3607.13	-17.81	2.5	0.35	0.70	3598.8	3599.5
294	312442.598	6633854.240	3621.57	16.19	2.5	0.32	0.63	3613.4	3614.0
295	312442.598	6633854.242	3621.58	17.87	0	0.00	0.00	3613.6	3613.6
296	312437.947	6633838.769	3637.74	-19.11	2.5	0.38	0.75	3629.5	3630.3
297	312438.094	6633821.150	3655.35	-16.50	2.5	0.33	0.65	3647.0	3647.7
298	312444.252	6633791.378	3686.22	14.24	2.5	0.28	0.56	3677.0	3678.5
299	312447.328	6633767.252	3710.37	3.09	2.5	0.06	0.12	3702.3	3702.4
300	312447.328	6633756.548	3720.98	-11.19	2.5	0.22	0.44	3713.0	3713.4
301	312449.050	6633746.007	3731.77	-9.76	2.5	0.19	0.38	3723.6	3724.0
302	312459.012	6633716.506	3762.90	74.87	2.5	1.67	2.94	3755.1	3758.0
303	312463.

CRUCE DE QUEBRADA SANTANDER Km 0,9316

PLANTA
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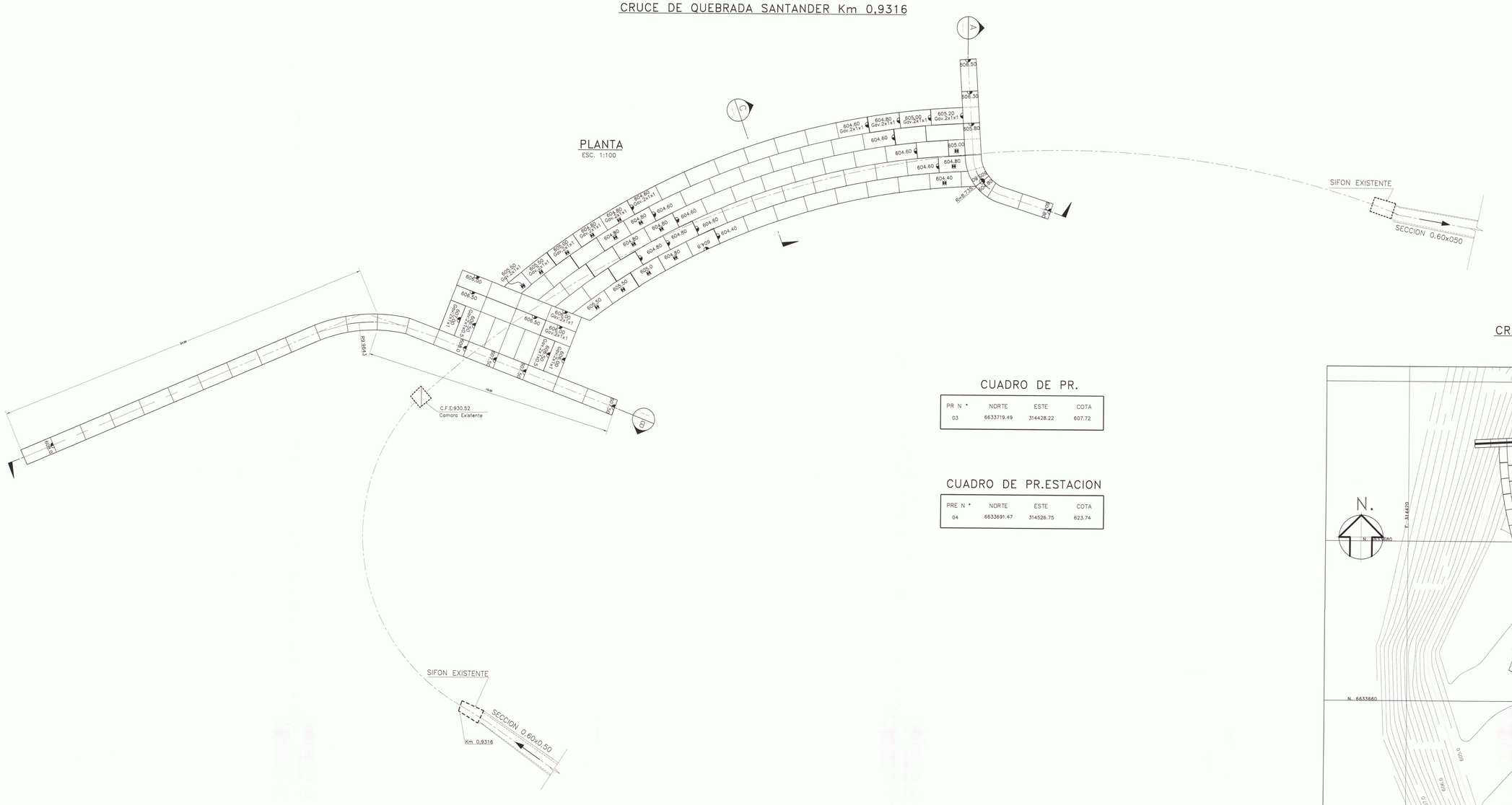


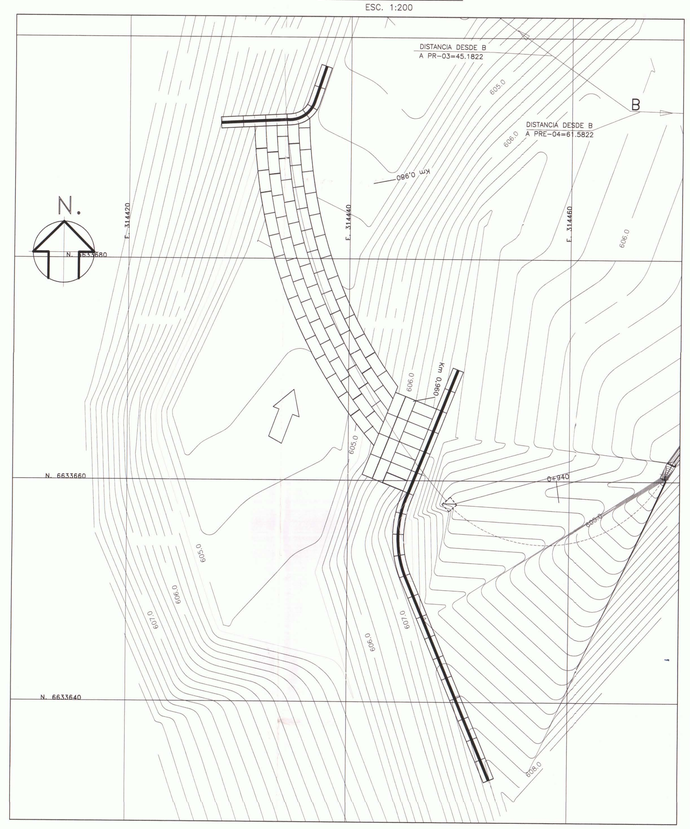
CUADRO DE PR.

PR. N °	NORTE	ESTE	COTA
03	6633719.49	314428.22	607.72

CUADRO DE PR.ESTACION

PRE. N °	NORTE	ESTE	COTA
04	6633691.47	314526.75	623.74

CRUCE DE QUEBRADA SANTANDER
PLANTA GENERAL
ESC. 1:200



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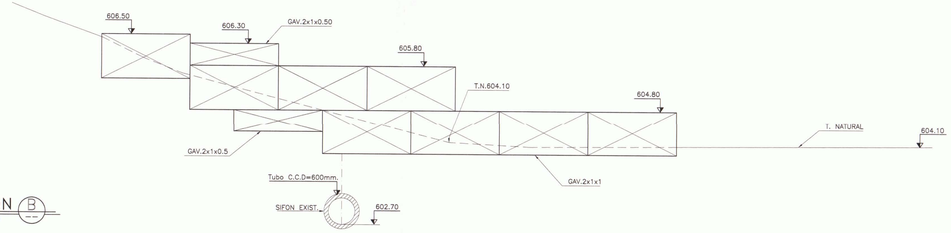

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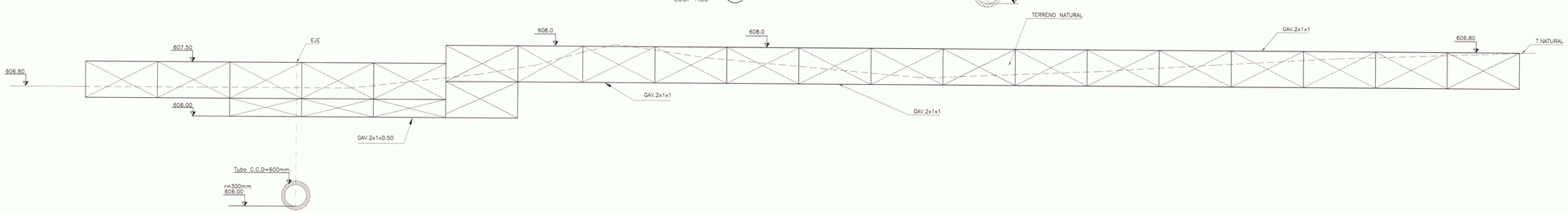

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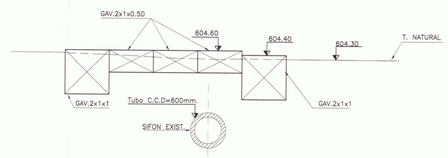
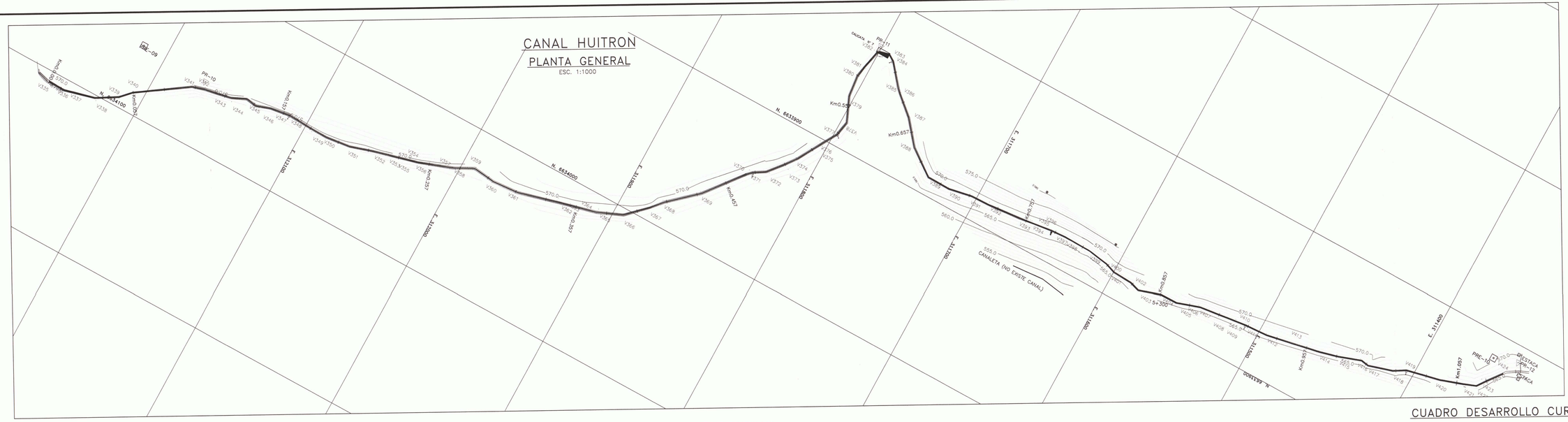


GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISIÓN NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo	Título Plano: CANAL LAS VERTIENTES CRUCE DE QUEBRADAS PLANTAS Y SECCIONES	
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010
			Lámina: 061-1/1

CANAL HUITRON

PLANTA GENERAL

ESC. 1:1000



PERFIL LONGITUDINAL

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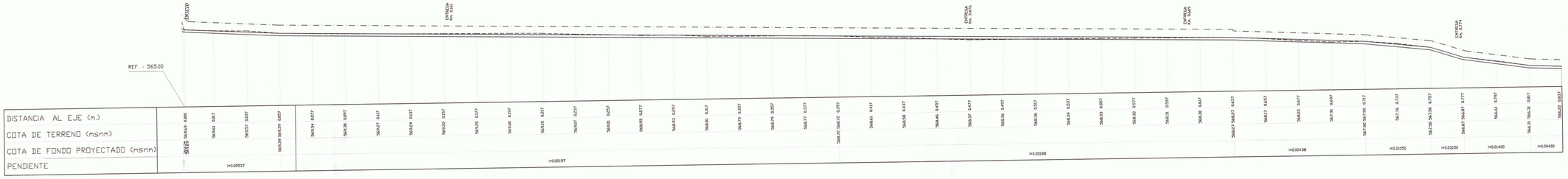

PERFIL LONGITUDINAL

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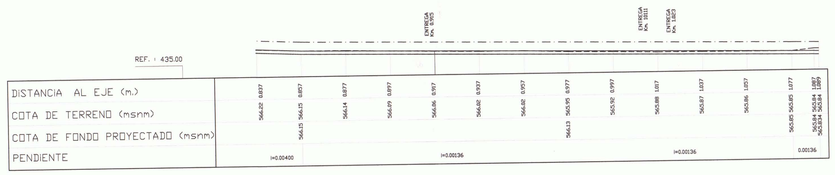


CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
0.000	0.161	0.50	0.50	
0.161	0.476	0.50	0.50	
0.476	0.637	0.50	0.50	
0.637	0.857	0.50	0.50	
0.857	0.914	0.50	0.50	
0.914	0.977	0.50	0.50	
0.977	1.023	0.50	0.50	
1.023	1.089	0.50	0.50	

CUADRO ENTREGAS PREDIALES

Km.	DIMENSIONES CANAL B (m)	DIMENSIONES CANAL H (m)	DIAMETRO ENTREGA (mm.)	GRADA a (m)	GRADA i (m)	COTAS FONDO (m.a.n.m) EXIST.	COTAS FONDO (m.a.n.m) PROY.
0.161	0.50	0.50	75	0.15	0.50		569.19
0.476	0.50	0.50	75	0.15	0.50		568.57
0.609	0.50	0.50	75	0.15	0.50		568.32
0.774	0.50	0.50	75				566.96
0.915	0.50	0.50	75	0.05	0.50		566.67
1.011	0.50	0.50	75	0.05	0.50		565.94
1.023	0.50	0.50	75	0.05	0.50		565.92

CUADRO DE PR.

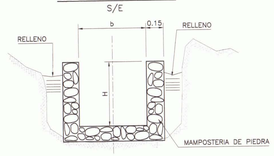
PR N°	NORTE	ESTE	COTA
10	6634058.51	312170.15	572.00
11	6633828.90	311600.88	568.88
12	6633810.35	311344.65	568.01

CUADRO DE PR.ESTACION

PRE N °	NORTE	ESTE	COTA
09	6634057.31	312215.73	578.10
10	6633815.39	311359.90	571.55

SECCION TIPO

S/E



CALICATA N° 7

Km. 5.043.44

DETALLE ENTREGAS PREDIALES

PLANTA

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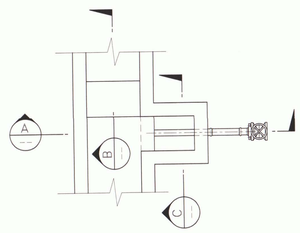

SECCION (A)

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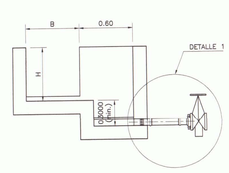

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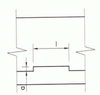

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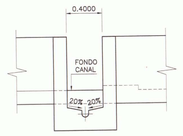

DETALLE (1)

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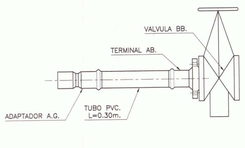


SIMBOLOGIA

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

CUADRO DESARROLLO CURVAS Y VERTICES

VERTICE N°	COORDENADAS UBICACION ESTE	NORTE	VERTICE	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
335	312258.074	6634106.728	4313.57	-197.78	0	0.00	0.00	4303.3	4303.3
336	312247.336	6634106.953	4304.31	-17.13	2.5	0.34	0.67	4313.7	4314.4
337	312241.647	6634105.511	4330.18	0.00	0	0.00	0.00	4319.9	4319.9
338	312227.318	6634101.878	4344.97	-18.53	2.5	0.37	0.73	4334.5	4335.2
339	312214.106	6634093.977	4360.36	-17.02	2.5	0.34	0.67	4349.7	4350.4
340	312207.557	6634087.146	4369.82	13.01	0	0.00	0.00	4359.5	4359.5
341	312176.082	6634065.513	4408.01	19.55	2.5	0.39	0.77	4397.5	4398.1
342	312168.403	6634063.178	4416.04	6.60	2.5	0.13	0.26	4405.8	4406.9
343	312151.379	6634056.877	4433.38	3.80	2.5	0.08	0.15	4423.0	4423.1
344	312150.697	6634059.776	4434.07	-18.78	2.5	0.37	0.74	4423.4	4424.1
345	312141.295	6634055.324	4444.47	31.91	2.5	0.61	1.19	4433.4	4434.6
346	312134.167	6634056.420	4451.66	-20.38	2.5	0.41	0.81	4440.7	4441.5
347	312124.952	6634053.316	4461.41	10.92	2.5	0.21	0.43	4450.8	4451.2
348	312112.205	6634051.347	4474.30	13.16	2.5	0.26	0.52	4463.7	4464.2
349	312095.882	6634052.221	4490.87	-2.73	2.5	0.05	0.11	4480.2	4480.3
350	312084.689	6634052.332	4501.84	-5.46	2.5	0.11	0.22	4491.2	4491.4
351	312068.991	6634050.388	4517.66	-11.26	2.5	0.22	0.44	4507.1	4507.5
352	312053.690	6634043.070	4533.68	2.58	2.5	0.05	0.10	4523.2	4523.4
353	312043.970	6634042.462	4543.74	-0.48	0	0.00	0.00	4533.4	4533.4
354	312043.968	6634043.068	4543.74	0.00	0	0.00	0.00	4533.4	4533.4
355	312043.966	6634043.068	4543.74	0.59	0	0.00	0.00	4533.4	4533.4
356	312035.513	6634038.201	4562.83	-4.56	2.5	0.11	0.22	4552.8	4553.0
357	312005.269	6634030.914	4594.34	0.00	0	0.00	0.00	4574.0	4574.0
358	312003.647	6634030.330	4586.06	-4.02	2.5	0.10	0.20	4575.5	4575.7
359	311991.720	6634024.010	4599.56	38.17	2.5	0.78	1.51	4588.4	4589.9
360	311977.211	6634025.684	4614.17	-12.52	2.5	0.25	0.49	4603.5	4604.0
361	311959.864	6634024.263	4631.56	-11.76	2.5	0.23	0.46	4620.9	4621.4
362	311933.458	6634017.049	4658.95	0.10	0	0.00	0.00	4648.5	4648.5
363	311933.439	6634017.037	4659.00	0.17	0	0.00	0.00	4648.6	4648.6
364	311933.409	6634017.037	4659.00	0.12	0	0.00	0.00	4648.6	4648.6
365	311909.670	6634011.063	4683.48	-10.07	2.5	0.20	0.40	4672.8	4673.2
366	311909.670	6634011.063	4683.48	-10.07	2.5	0.20	0.40	4672.8	4673.2
367	311880.914	6633991.902	4718.62	-5.56	2.5	0.11	0.22	4708.3	4708.5
368	311874.182	6633984.098	4728.93	0.15	0	0.00	0.00	4718.3	4718.3
369	311856.311	6633968.078	4752.93	-11.13	2.5	0.22	0.44	4742.7	4742.7
370	311838.622	6633944.220	4784.51	0.00	2.5	0.00	0.00	4773.9	4774.2
371	311833.958	6633940.386	4786.54	14.46	2.5	0.29	0.57	4777.8	4778.4
372	311824.486	6633931.719	4797.32	-20.87	2.5	0.41	0.82	4788.5	4789.3
373	311818.947	6633926.636	4809.17	-2.33	2.5	0.05	0.09	4798.8	4798.8
374	311812.765	6633918.543	4816.36	-8.52	2.5	0.18	0.35	4805.8	4806.1
375	311805.143	6633902.039	4834.86	-0.54	2.5	0.01	0.02	4824.4	4824.4
376	311803.711	6633902.448	4837.82	-2.71	2.5	0.03	0.07	4827.3	4827.4
377	311798.100	6633892.414	4848.88	-21.52	2.5	0.43	0.84	4838.0	4838.8
378	311786.233	6633883.389	4858.59	-38.51	2.5	0.78	1.51	4847.3	4848.9
379	311763.191	6633867.418	4876.01	18.94	2.5	0.37	0.74	4865.1	4865.9
380	311804.757	6633853.870	4880.86	18.05	2.5	0.36	0.71	4870.0	4879.7
381	311804.757	6633844.464	4887.13	3.04	2.5	0.06	0.12	4886.5	4886.7
382	311800.651	6633833.508	4910.43	69.67	2.5	1.52	2.74	4898.4	4901.1
383	311793.544	6633831.830	4917.78	53.06	2.5	1.11	2.08	4905.8	4907.9
384	311789.106	6633834.507	4923.07	19.38	2.5	0.38	0.74	4911.7	4912.5
385	311778.116	6633841.785	4940.31	-5.65	2.5	0.11	0.23	4929.3	4929.5
386	311775.613	6633850.297	4943.85	-4.54	2.5	0.09	0.18	4933.0	4933.0
387	311762.864	6633861.368	4960.72	10.36	2.5	0.20	0.41	4949.5	4950.0
388	311760.518	6633875.280	4960.72	-15.43	0	0.00	0.00	4969.1	4969.1
389	311733.597	6633868.782	5001.13	-39.88	2.5	0.81	1.63	4989.4	4990.9
390	311718.387	6633888.929	5016.35	-12.83	2.5	0.25	0.50	5005.1	5005.6
391	311703.282	6633885.993	5031.75	10.17	2.5	0.20	0.40	5020.5	5020.9
392	311691.116	6633885.604	5043.90	-3.94	2.5	0.08	0.15	5032.8	5033.0
393	311669.831	6633883.599	5065.28	-2.53	2.5	0.05	0.10	5054.2	5054.3
394	311659.861	6633882.250	5075.35	0.31	0	0.00	0.00	5064.3	5064.3
395	311659.848	6633882.250	5075.56	0.00	0	0.00	0.00	5064.5	5064.5
396	311659.845	6633882.250	5075.56	-0.33	0	0.00	0.00	5064.5	5064.5
397	311647.619	6633880.570	5087.70	3.07	2.5	0.10	0.20	5076.6	5076.8
398	311638.080	6633880.028	5097.25	4.87	2.5	0.09	0.18	5086.1	5086.3
399	311619.972	6633880.328	5115.66	8.44	2.5	0.17	0.33	5104.5	5104.8
400	311606.681	6633882.277	5128.80	11.97	2.5	0.24	0.47	5117.5	5118.0
401	311599.801	6633884.687	5136.09	-18.34	2.5	0.36	0.72	5124.7	5125.4
402	311587.111	6633885.307	5148.80	15.97	2.5	0.32	0.63	5137.4	5138.1
403	311580.667	6633887.298	5155.54	-38.65	2.5	0.78	1.52	5143.7	5145.2
404	311566.202	6633882.706	5170.72	18.32	2.5	0.36	0.72	5159.3	5160.0
405	311555.360	6633882.493	5181.54	-19.18	2.5	0.38	0.75	5170.1	5170.8
406	311552.699	6633881.801	5184.37	0.00	0	0.00	0.00	5173.3	5173.3
407	311540.522	6633877.553	5197.20	12.33	2.5	0.24	0.48	5185.9	5186.3
408	311516.509	6633874.473	5221.41	0.18	0	0.00	0.00	5210.3	5210.3
409	311516.497	6633874.471	5221.42	0.53	0	0.00	0.00	5210.3	5210.3
410	311516.482	6633874.470	5221.43	-0.11	0	0.00	0.00	5210.3	5210.3
411	311509.485	6633873.636	5228.50	3.72	2.5	0.07	0.15	5217.5	5217.6
412	311494.586	6633872.747	5243.41	-8.20	2.5	0.16	0.32	5232.2	5232.5
413	311476.893	6633869.371	5261.42	-0.95	2.5	0.02	0.04	5250.3	5250.3
414	311459.992	6633865.898	5278.98	-3.25	2.5	0.06	0.13	5267.5	5267.6
415	311447.907	6633862.776	5291.16	-5.43	2.5	0.11	0.21	5280.0	5280.2
416	311433.348	6633857.859	5306.59	32.63	2.5	0.66	1.28	5294.8	5296.1
417	311428.252	6633858.551	5311.72	-28.93	2.5	0.60	1.18	5300.0	5301.2
418	311412.656	6633853.788	5328.07	-15.84	2.5	0.32	0.62	5316.6	5317.2
419	311405.120	6633849.224	5336.88	20.72	2.5	0.41	0.81	5325.3	5326.1
420	311383.407	6633844.397	5359.12	-5.98	2.5	0.12	0.24	5347.8	5348.1
421	311369.016	6633839.465	5374.83	-2.25	2.5	0.04	0.09	5363.1	5363.2
422	311360.958	6633836.404	5382.95	-37.28	0	0.00	0.00	5371.8	5371.8
423	311358.785	6633830.565	5390.13	0.00	0	0.00	0.00	5378.0	5378.0
424	311349.654	6633821.130	5401.96	96.80	0	0.00	0.00	5390.8	5390.8

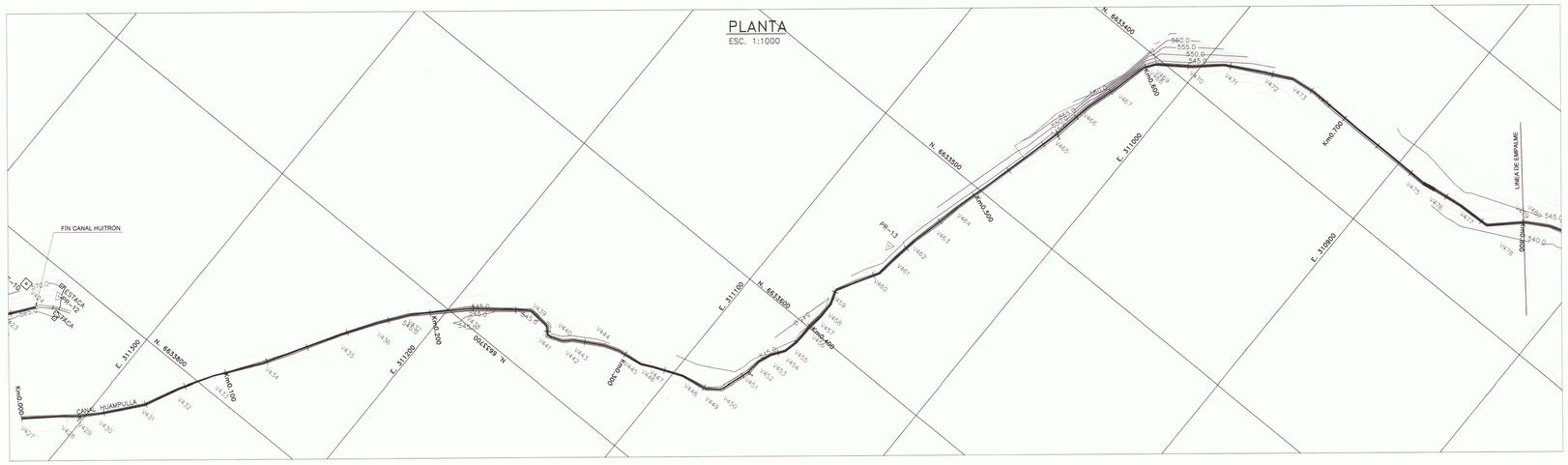
NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS

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 HUITRON PLANTA, 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: 062-1/1

CANAL HUAMPULLA

PLANTA
ESC. 1:1000



PERFIL LONGITUDINAL
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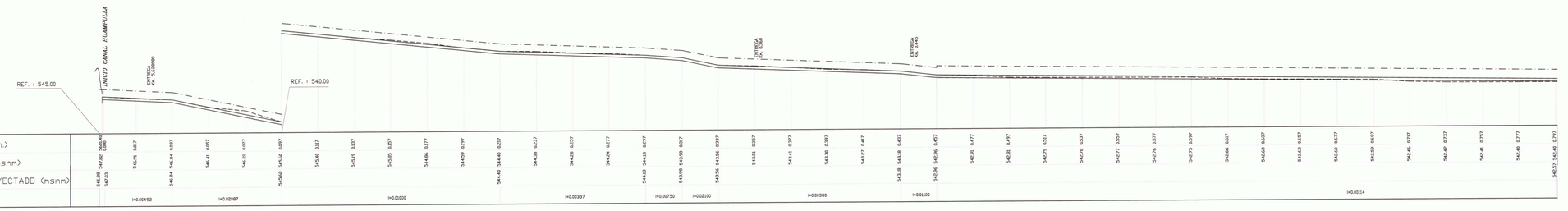
ESC. V=1:100



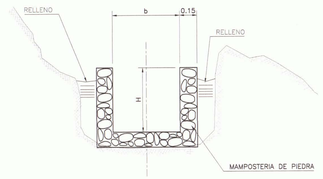
CUADRO DE ENTREGAS PREDIALES
CANAL HUAMPULLA

Km.	DIMENSIONES CANAL B (m)	DIMENSIONES 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.
0.025	0.50	0.40	75	0.05	0.50		546.90
0.360	0.50	0.40	75	0.05	0.50		543.47
0.445	0.50	0.40	75	0.05	0.50		543.10
1.573	0.50	0.50	75	0.10	0.50		541.51
1.722	0.50	0.50	75	0.10	0.50		541.32

CUADRO DE PR.

PR Nº	NORTE	ESTE	COTA
13	6633546.91	311059.56	547.46
14	6633273.07	310738.95	544.92
15	6632890.83	310502.93	543.51

SECCION TIPO
S/E



CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
0.000	0.457	0.50	0.40	
0.457	1.071	0.50	0.50	
1.071	1.377	0.50	0.50	Tunel existente
1.377	1.573	0.50	0.50	
1.573	2.131	0.50	0.50	

CUADRO DESARROLLO DE CURVAS Y VERTICES

VERTICE Nº	COORDENADAS UBICACION ESTE (m)	NORTE (m)	VERTICE	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
427	311322.246	6633860.248	5404.82	-106.52	0	0.00	0.00	5443.1	5443.1
428	311308.496	6633852.707	5473.43	3.50	0	0.00	0.00	5482.3	5482.3
429	311302.336	6633847.600	5481.51	-7.68	2.5	0.15	0.31	5470.2	5470.5
430	311295.133	6633840.183	5491.79	-4.61	2.5	0.09	0.18	5480.5	5480.7
431	311287.669	6633833.858	5517.94	-15.78	2.5	0.31	0.61	5507.1	5507.7
432	311274.238	6633808.362	5530.12	5.81	2.5	0.11	0.23	5518.8	5519.1
433	311265.115	6633793.423	5547.52	5.91	2.5	0.12	0.23	5536.5	5536.7
434	311251.115	6633774.000	5571.58	-6.00	2.5	0.12	0.24	5560.3	5560.5
435	311231.431	6633740.937	5610.16	2.53	2.5	0.05	0.10	5598.9	5599.0
436	311221.586	6633725.802	5628.12	4.14	2.5	0.08	0.16	5616.9	5617.0
437	311211.365	6633713.533	5643.68	8.86	2.5	0.17	0.35	5632.4	5632.7
438	311192.398	6633693.287	5671.91	8.71	2.5	0.17	0.34	5660.6	5660.9
439	311169.729	6633675.944	5700.45	46.54	2.5	0.96	1.83	5688.3	5690.2
440	311159.171	6633676.772	5711.04	54.54	2.5	1.14	2.13	5698.7	5700.8
441	311156.567	6633680.272	5715.40	-81.14	2.5	1.85	3.18	5702.2	5705.4
442	311149.438	6633677.772	5722.97	-26.75	2.5	0.53	1.05	5710.5	5711.5
443	311145.746	6633674.197	5728.08	15.47	2.5	0.31	0.61	5715.9	5716.5
444	311132.886	6633666.833	5742.90	11.96	2.5	0.24	0.47	5730.7	5731.2
445	311126.097	6633664.491	5750.08	12.60	2.5	0.25	0.49	5737.9	5738.4
446	311114.366	6633662.905	5761.92	-20.78	2.5	0.41	0.82	5749.8	5750.6
447	311108.735	6633660.110	5768.21	4.25	2.5	0.08	0.17	5756.2	5756.4
448	311095.952	6633656.797	5780.05	13.19	2.5	0.26	0.50	5768.9	5769.4
449	311083.901	6633652.520	5794.31	-29.58	2.5	0.59	1.16	5781.8	5783.0
450	311076.095	6633648.063	5801.62	-37.23	2.5	0.75	1.46	5788.9	5790.4
451	311071.338	6633634.178	5816.14	-15.26	2.5	0.30	0.60	5803.8	5804.4
452	311072.643	6633627.186	5833.38	18.55	2.5	0.37	0.73	5821.0	5821.8
453	311071.104	6633620.942	5830.10	15.21	2.5	0.30	0.60	5817.8	5818.4
454	311068.014	6633615.357	5836.99	-25.24	2.5	0.50	0.99	5824.5	5825.5
455	311064.654	6633609.255	5843.25	-12.66	2.5	0.25	0.50	5831.0	5831.5
456	311064.349	6633599.041	5853.47	6.47	2.5	0.13	0.25	5841.3	5841.6
457	311061.483	6633592.504	5860.07	-8.53	2.5	0.17	0.34	5847.9	5848.2
458	311061.502	6633585.218	5867.35	-20.98	2.5	0.42	0.82	5854.9	5855.7
459	311060.952	6633579.515	5874.44	54.27	2.5	1.14	2.13	5861.8	5863.9
460	311055.002	6633559.641	5896.19	-25.56	2.5	0.51	1.00	5883.5	5884.5
461	311053.698	6633548.783	5907.12	2.60	2.5	0.05	0.10	5894.9	5895.0
462	311051.928	6633537.805	5918.20	4.94	2.5	0.10	0.19	5905.9	5906.1
463	311048.834	6633535.112	5931.31	-1.54	2.5	0.03	0.06	5919.1	5919.2
464	311046.196	6633512.971	5943.74	2.32	2.5	0.05	0.09	5931.5	5931.6
465	311031.883	6633457.387	6001.10	-5.03	2.5	0.10	0.20	5988.8	5989.0
466	311028.683	6633438.322	6020.46	7.60	2.5	0.15	0.30	6008.1	6008.4
467	311023.715	6633421.713	6037.80	-3.81	2.5	0.08	0.15	6025.5	6025.7
468	311021.364	6633407.527	6052.36	25.71	2.5	0.51	1.01	6039.7	6040.7
469	311016.785	6633402.617	6058.46	19.94	2.5	0.39	0.78	6045.9	6046.6
470	311003.231	6633392.894	6075.16	-7.15	2.5	0.14	0.28	6062.8	6063.1
471	310997.057	6633383.780	6090.23	15.12	2.5	0.30	0.59	6077.7	6078.3
472	310975.046	6633353.195	6120.58	1.99	2.5	0.04	0.08	6097.3	6097.4
473	310963.495	6633351.421	6131.13	21.97	2.5	0.44	0.86	6110.5	6111.3
474	310951.802	6633366.061	6134.38	5.17	2.5	0.10	0.20	6113.3	6113.5
475	310944.913	6633366.505	6007.25	-7.22	2.5	0.14	0.28	6188.5	6188.8
476	310879.250	6633365.485	6207.01	3.20	2.5	0.06	0.13	6194.7	6194.9
477	310865.118	6633363.550	6221.27	5.95	2.5	0.12	0.23	6209.9	6210.2
478	310849.892	6633360.922	6234.51	-45.98	2.5	0.94	1.81	6223.3	6225.2
479	310836.863	6633350.450	6254.55	15.17	2.5	0.30	0.60	6241.9	6242.5
480	310827.041	6633344.758	6265.90	12.48	2.5	0.25	0.49	6253.3	6253.8
481	310820.137	6633342.398	6273.19	0.56	2.5	0.01	0.02	6260.7	6261.1
482	310805.218	6633339.697	6288.36	-30.22	2.5	0.60	1.19	6275.4	6276.6
483	310797.854	6633339.344	6310.23	-10.58	2.5	0.21	0.42	6297.7	6298.1
484	310781.274	6633313.344	6315.87	7.66	2.5	0.15	0.30	6307.4	6307.7
485	310772.780	6633312.202	6330.97	0.51	0	0.00	0.00	6316.6	6316.6
486	310772.783	6633312.198	6330.97	-1.34	0	0.00	0.00	6316.8	6316.8
487	310772.780	6633312.195	6330.98	0.83	0	0.00	0.00	6316.8	6316.8
488	310764.869	6633305.489	6341.34	-8.97	2.5	0.18	0.35	6328.2	6328.5
489	310751.756	6633293.018	6358.05	3.97	2.5	0.08	0.16	6345.8	6345.8
490	310715.564	6633273.009	6386.49	-6.12	2.5	0.12	0.24	6374.2	6374.3
491	310714.278	6633249.801	6416.65	-2.43	2.5	0.05	0.10	6404.3	6404.4
492	310705.312	6633238.141	6431.36	20.68	2.5	0.41	1.01	6419.5	6419.5
493	310694.169	6633231.880	6444.14	11.77	2.5	0.23	0.46	6431.6	6432.0
494	310691.611	6633228.638	6454.24	-19.98	2.5	0.40	0.78	6441.5	6442.3
495	310679.497	6633224.822	6460.62	-33.94	2.5	0.68	1.33	6447.6	6448.9
496	310674.380	6633212.613	6473.84	14.39	2.5	0.28	0.56	6461.2	6461.7
497	310663.870	6633197.700	6492.22	53.57	2.5	1.12	2.10	6478.7	6480.8
498	310648.490	6633196.076	6507.48	-52.23	2.5	1.09	2.05	6493.9	6495.9
499	310638.531	6633182.797	6524.09	-12.23	2.5	0.24	0.48	6511.2	6511.7
500	310630.848	6633161.990	6541.66	-39.34	2.5	0.80	1.54	6528.2	6529.8
501	310618.315	6633158.227	6550.54	-15.85	2.5	0.31	0.60	6537.0	6538.2
502	310636.800	6633140.042	6561.87	81.83	2.5	1.87	3.21	6547.1	6550.3
503	310614.861	6633131.507	6577.32	-7.78	2.5	0.16	0.31	6563.1	6563.4
504	310611.811	6633124.786	6595.15	-39.26	2.5	0.79	1.54	6581.1	6582.7
505	310611.994	6633110.513	6609.54	20.37	2.5	0.41	0.81	6595.8	6596.7
506	310602.562	6633093.048	6628.83	3.67	2.5	0.11	0.23	6615.5	6615.8
507	310597.060	6633088.845	6633.65	-5.56	2.5	0.12	0.23	6620.5	6620.7
508	310579.306	6633046.643	6680.88	-10.66	2.5	0.21	0.43	6667.4	6667.8
509	310575.863	6633034.567	6693.43	16.01	2.5	0.32	0.63	6679.8	6680.4
510	310569.381	6633021.486	6709.27	-12.23	2.5	0.29	0.58	6695.7	6696.3
511	310562.504	6633000.933	6729.85	20.70	2.5	0.41	0.81	6716.1	6717.0
512	310563.981	6632991.308	6741.61	-15.86	2.5	0.31	0.61	6727.8	6728.5
513	310552.838	6632978.902	6764.37	60.36	2.5	1.28	2.37	6739.8	6742.1
514	310543.879	6632964.138	6779.54	-54.58	2.5	1.14	2.13	6754.9	6757.0
515	310529.513	6632957.898	6786.91	-4.58	2.5	0.09	0.18	6762.2	6762.4
516	310527.111	6632951.453	6805.90	119.79	2.5	2.71	5.41	6781.2	6786.6
517	310503.515	6632929.530	6818.59	-9.31	2.5	0.18	0.37	6804.8	6805.1
518	310501.509	6632918.681	6830.91	-4.22	2.5	0.08	0.17	6817.1	6817.3
519	310515.509	6632908.477	6840.23	46.13	2.5	0.95	1.81	6825.6	6827.4
520	310508.277	6632902.909	6844.40	0.00	0	0.00	0.00	6833.7	6833.7
521	310501.868	6632899.538	6854.94	-36.78	2.5	0.74	1.46	6840.5	6841.9
522	310502.343	6632895.235	6859.51	0.00	0	0.00	0.00	6845.7	6845.7
523	310501.129	6632888.959	6868.51	-19.72	2.5	0.40	0.80	6854.7	6855.6
524	310499.082	6632881.608	6873.59	61.93	2.5	1.32	2.43	6858.5	6860.9
525	310499.080	6632878.688	6884.74	-0.36	0	0.00	0.00	6870.7	6870.8
526	310489.074	6632876.685	6884.74	-0.04	0	0.00	0.00	6870.8	6870.8
527	310488.611	6632876.453	6885.26	-0.01	0	0.00	0.00	6871.3	6871.3
528	310477.047	6632870.668	6898.19	0.00	0	0.00	0.00	6884.2	6884.2
529	310476.372	6632870.328	6898.95	-14.41	2.5	0.28	0.57	6884.9	6885.4
530	310472.831	6632867.490	6903.41	-38.83	2.5	0.79	1.52	6888.8	6890.2
531	310470.474	6632858.623	6912.61	19.83	2.5	0.39	0.78	6898.2	6899.0
532	310451.649	6632839.214	6935.87	-5.13	2.5	0.10	0.20	6921.7	6921.9
533	310444.469	6632815.221	6963.25	-1.22	2.5	0.06	0.13	6949.1	6949.3
534	310441.244	6632808.586	6970.61	4.33	2.5	0.09	0.17	6956.5	6956.7
535	310435.076	6632794.136	6987.05	-5.54	2.5	0.12	0.23	6972.9	6973.1
536	310427.737	6632782.568	6999.98	-19.38	2.5	0.38	0.76	6985.5	6986.3
537	310425.752	6632766.591	7016.08	-11.28	2.5	0.22	0.44	7001.8	7002.2
538	310426.550	6632753.987	7030.70	61.71	2.5	1.89	3.78	7015.8	7019.5
539	310417.870	6632739.849	7045.74	30.33	2.5	0.61	1.19	7031.0	7032.2
540	310405.364	6632733.713	7059.49	-31.05	2.5	0.62	1.22	7044.7	7045.9
541	310400.678	6632727.155	7067.55	-16.53	2.5	0.33	0.65	7053.1	7053.7
542	310397.586	6632718.660	7076.31	12.99	2.5	0.25	0.51	7061.9	7062.4
543	310378.096	6632688.174	7112.75	1.73	2.5	0.03	0.07	7098.5	7098.6
544	310369.486	6632675.362	7128.19	-2.96	2.5	0.06	0.11	7113.8	7114.1
545	310361.553	6632665.598	7139.61	-20.53	2.5	0.41	0.81	7125.0	7125.8
546	310361.387	6632656.092	7149.38	-19.48	2.5	0.39	0.77	7134.8	7135.6
547	310362.272	6632645.349	7160.14	7.99	2.5	0.16	0.31	7145.8	7146.1
548	310361.465	6632626.528	7179.98	42.62	2.5	0.87	1.67	7165.6	7165.6
549	310351.104	6632621.475	7185.65	67.19	2.5	1.37	2.25	7170.2	7172.4
550	310347.997	6632621.839	7194.76	20.84	2.5	0.41	0.82	7179.3	7180.1
551	310329.499	6632628.059	7214.59	-40.26	2.5	0.82	1.58	7199.3	7200.9
552	310319.899	6632624.380	7224.43	-25.56	2.5	0.51	1.00	7209.4	7210.4
553	310308.643	6632617.663	7238.50	-3.54	2.5	0.07	0.14	7223.8	7224.1

PLANTA
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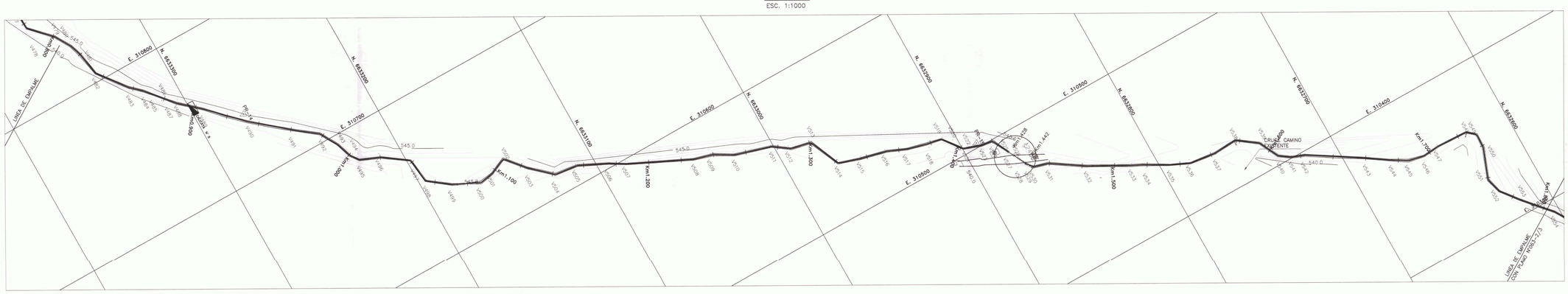
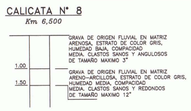


CALICATA Nº 8
Km 6,600



PERFIL LONGITUDINAL
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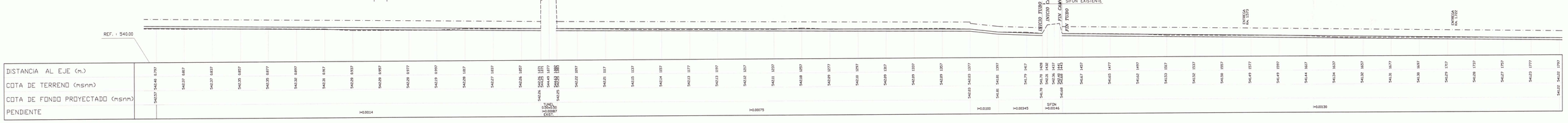
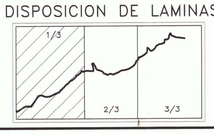


DISPOSICION DE LAMINAS



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
- DETALLE ENTREGAS PREDIALES VER PLANO Nº063-3/3

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	Título Plano: CANAL HUAMPULLA 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: 063-1/3

CANAL HUAMPULLA

PLANTA GENERAL

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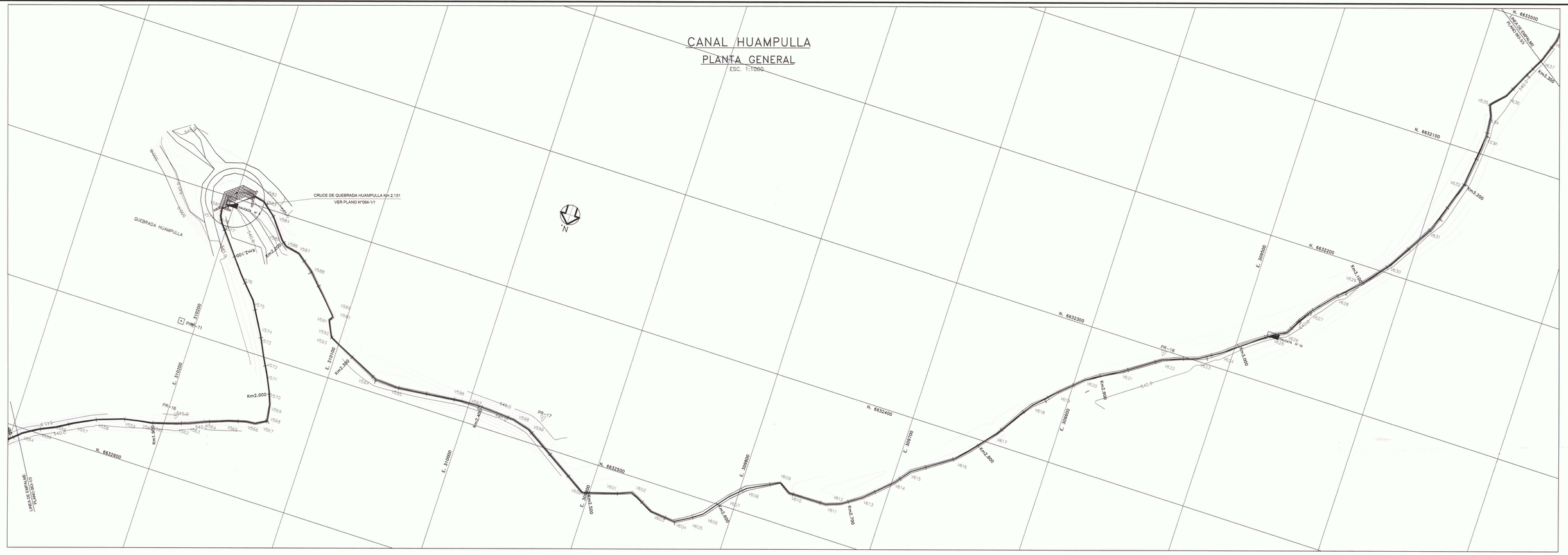

CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
1.573	2.131	0.50	0.50	
2.131	2.226	D=600	D=600	Sifón existente
2.226	2.357	0.50	0.50	
2.357	2.854	0.60	0.50	
2.854	2.977	0.60	0.50	
2.977	3.234	0.60	0.50	
3.234	3.297	0.60	0.55	

PERFIL LONGITUDINAL

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

CALICATA N° 9
Km. 7,743.3

| | | |

CANAL HUAMPULLA

PLANTA GENERAL
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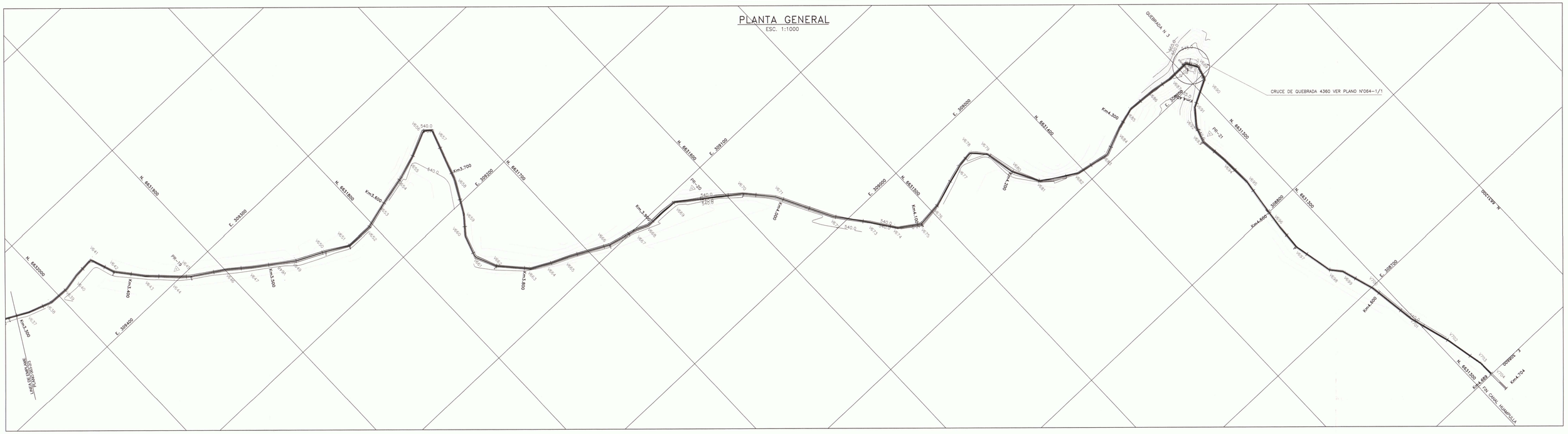

CUADRO DE SECCIONES

TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
3.297	3.777	0.60	0.55	
3.777	4.703	0.60	0.50	

PERFIL LONGITUDINAL
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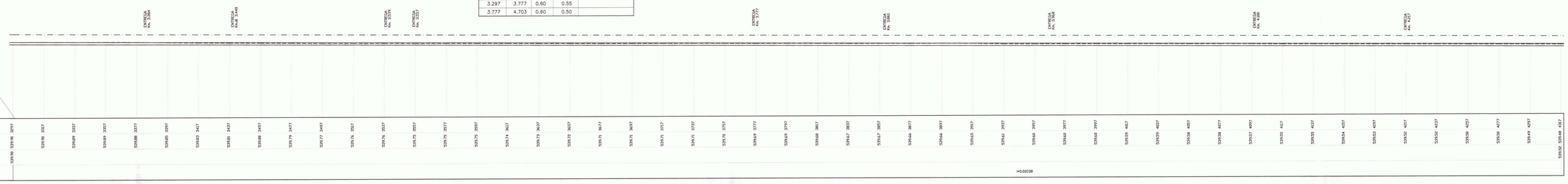

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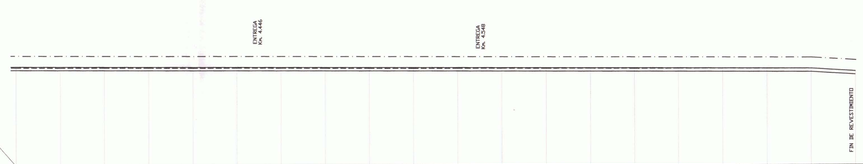
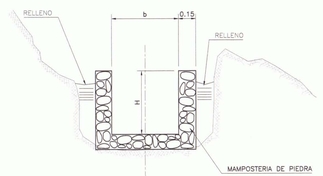


SECCION TIPO
S/E



CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
19	6631925.00	309306.38	541.44
20	6631614.37	309093.05	543.35
21	6631315.33	308865.43	543.16

CUADRO DE ENTREGAS PREDIALES CANAL HUAMPULLA

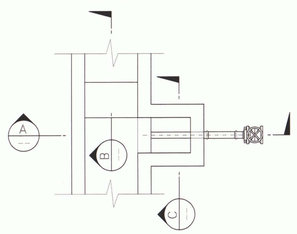
Km.	DIMENSIONES CANAL B (m)	DIMENSIONES CANAL H (m)	DIAMETRO ENTREGA (mm.)	GRADA a (m)	GRADA i (m)	COTAS FONDO (m.s.n.m) EXIST.	COTAS FONDO (m.s.n.m) PROY.
3.384	0.60	0.55	75	0.20	0.50		539.90
3.440	0.60	0.55	75	0.20	0.50		539.87
3.539	0.60	0.55	75	0.20	0.50		539.85
3.557	0.60	0.55	75	0.20	0.50		539.81
3.777	0.60	0.50	75	0.20	0.50		539.80
3.861	0.60	0.50	75	0.20	0.50		539.72
3.968	0.60	0.50	75	0.20	0.50		539.68
4.100	0.60	0.50	75	0.20	0.50		539.64
4.217	0.60	0.50	75	0.20	0.50		539.59
4.446	0.60	0.50	75	0.20	0.50		539.55
4.548	0.60	0.50	75	0.20	0.50		539.47
4.649	0.60	0.50	75	0.20	0.50		539.43

CUADRO DESARROLLO DE CURVAS Y VERTICES

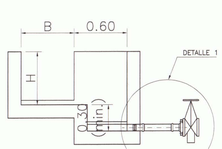
VERTICE N°	COORDENADAS UBICACION ESTE (m)	NORTE (m)	VERTICE (m)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
637	309356.741	6633023.699	8782.12	-8.15	2.5	0.16	0.32	8744.9	8745.2
638	309350.947	6633007.348	8779.47	-19.18	2.5	0.38	0.75	8762.6	8763.4
639	309350.377	6631992.604	8784.22	-14.14	2.5	0.28	0.56	8778.8	8779.4
640	309352.538	6631980.899	8806.13	-7.19	2.5	0.14	0.28	8788.9	8789.2
641	309353.818	6631965.520	8821.54	82.37	2.5	1.89	3.53	8802.6	8806.0
642	309335.956	6631959.134	8840.32	-21.18	2.5	0.42	0.83	8822.3	8823.1
643	309318.606	6631944.686	8861.30	-4.75	2.5	0.13	0.26	8840.6	8840.8
644	309300.781	6631927.388	8887.77	-4.34	2.5	0.09	0.17	8870.1	8870.2
645	309295.455	6631921.278	8895.86	-4.35	2.5	0.18	0.37	8878.1	8878.4
646	309290.856	6631898.712	8922.70	5.73	2.5	0.11	0.22	8905.0	8905.2
647	309270.472	6631885.222	8939.78	-2.67	2.5	0.05	0.10	8922.1	8922.2
648	309258.512	6631881.732	8961.27	-0.43	2.5	0.01	0.02	8943.8	8943.9
649	309251.330	6631858.066	8973.07	-10.11	2.5	0.20	0.40	8955.2	8955.6
650	309241.485	6631836.226	8995.13	3.87	2.5	0.08	0.15	8977.4	8977.5
651	309232.772	6631822.656	9013.02	-31.88	2.5	0.64	1.25	8994.8	8996.0
652	309212.508	6631803.177	9032.50	-17.78	2.5	0.35	0.70	9014.5	9015.2
653	309137.91	6631783.335	9053.07	2.84	2.5	0.06	0.11	9035.4	9035.5
654	309142.780	6631761.670	9075.27	-5.91	2.5	0.12	0.23	9057.5	9057.7
655	309147.886	6631745.947	9091.80	-6.66	2.5	0.13	0.26	9074.0	9074.3
656	309156.252	6631727.166	9112.35	68.25	2.5	1.49	2.88	9093.2	9096.0
657	309252.374	6631722.101	9118.74	79.14	2.5	1.79	3.11	9099.0	9102.1
658	309215.478	6631734.948	9157.88	10.91	2.5	0.21	0.43	9139.0	9139.5
659	309192.430	6631747.043	9183.89	11.99	2.5	0.24	0.47	9165.2	9165.7
660	309182.203	6631757.033	9199.68	-23.23	2.5	0.46	0.91	9180.8	9181.7
661	309144.486	6631762.240	9216.24	-46.83	2.5	0.95	1.84	9196.8	9198.7
662	309149.570	6631755.859	9232.54	-20.35	2.5	0.40	0.80	9213.6	9214.4
663	309131.056	6631736.919	9251.50	-22.05	2.5	0.44	0.87	9236.5	9236.4
664	309123.837	6631725.367	9272.87	-4.58	2.5	0.09	0.18	9254.2	9254.4
665	309117.998	6631712.102	9287.37	3.50	2.5	0.07	0.14	9268.8	9268.9
666	309104.282	6631685.312	9317.45	-14.78	2.5	0.29	0.58	9298.6	9299.2
667	309088.849	6631663.674	9339.73	11.58	2.5	0.23	0.45	9321.0	9321.4
668	309095.499	6631656.002	9348.15	-24.83	2.5	0.49	0.97	9329.1	9330.1
669	309094.672	6631630.707	9373.46	38.25	2.5	0.77	1.50	9354.1	9355.6
670	309065.065	6631590.403	9423.47	14.14	2.5	0.28	0.56	9404.6	9405.1
671	309047.179	6631574.967	9447.16	14.50	2.5	0.29	0.57	9428.3	9428.8
672	309038.376	6631554.301	9491.07	-11.16	2.5	0.22	0.44	9472.3	9472.7
673	309087.083	6631537.706	9518.07	3.16	2.5	0.06	0.12	9499.4	9499.5
674	309070.477	6631526.042	9538.36	-23.03	2.5	0.46	0.90	9519.3	9520.2
675	309060.927	6631511.881	9555.36	-44.50	2.5	0.91	1.75	9535.8	9537.6
676	309060.766	6631494.068	9573.37	-12.74	2.5	0.25	0.50	9554.4	9554.9
677	309072.651	6631462.373	9606.57	10.63	2.5	0.22	0.43	9587.7	9588.1
678	309074.126	6631451.153	9617.90	60.74	2.5	1.29	2.39	9597.9	9600.3
679	309064.782	6631442.472	9630.65	34.80	2.5	0.70	1.37	9611.1	9612.4
680	309043.413	6631434.126	9652.45	-18.01	2.5	0.36	0.71	9633.2	9633.9
681	309024.733	6631408.316	9673.55	-33.80	2.5	0.68	1.33	9653.9	9655.3
682	309009.762	6631404.286	9701.85	-33.69	2.5	0.67	1.33	9682.4	9683.8
683	308905.264	6631380.048	9726.51	-36.28	2.5	0.73	1.42	9706.8	9708.2
684	308913.329	6631360.157	9747.91	7.23	2.5	0.14	0.28	9728.8	9729.1
685	308917.478	6631342.256	9763.44	37.22	2.5	0.82	1.63	9744.0	9744.8
686	308916.168	6631324.067	9784.67	6.40	2.5	0.13	0.25	9765.5	9765.8
687	308913.860	6631309.974	9798.95	-11.60	2.5	0.23	0.46	9779.7	9780.2
688	308914.185	6631293.673	9815.35	66.24	2.5	1.43	2.60	9794.8	9797.4
689	308908.143	6631286.741	9824.69	52.59	2.5	1.10	2.07	9804.4	9806.4
690	308896.650	6631291.427	9834.55	51.84	2.5	1.07	2.03	9814.1	9816.1
691	308886.511	6631310.792	9856.35	-25.62	2.5	0.51	1.01	9836.2	9837.3
692	308875.772	6631319.482	9870.21	-23.32	2.5	0.46	0.92	9850.2	9851.1
693	308863.876	6631323.357	9882.62	-27.65	2.5	0.55	1.09	9862.5	9863.6
694	308844.457	6631331.053	9902.28	4.85	2.5	0.10	0.19	9882.6	9882.8
695	308831.807	6631333.111	9925.10	10.86	2.5	0.21	0.43	9905.4	9905.8
696	308781.972	6631325.286	9965.12	-4.71	2.5	0.09	0.18	9945.4	9945.5
697	308763.507	6631326.293	9983.81	-16.50	2.5	0.33	0.65	9963.7	9964.4
698	308735.234	6631320.449	10012.48	-31.86	2.5	0.64	1.25	9992.3	9993.5
699	308727.699	6631314.049	10022.37	25.59	2.5	0.51	1.01	10002.3	10003.3
700	308704.006	6631306.667	10047.18	12.23	2.5	0.24	0.48	10027.4	10027.8
701	308668.874	6631301.892	10082.57	-9.03	2.5	0.18	0.35	10062.8	10063.1
702	308638.681	6631292.865	10114.11	5.08	2.5	0.10	0.20	10093.9	10094.0
703	308610.657	6631287.112	10142.73	10.80	2.5	0.21	0.43	10122.9	10123.3
704	308600.648	6631286.763	10152.74	0.00	2.5	0.00	0.00	10152.7	10153.1

DETALLE ENTREGAS PREDIALES

PLANTA
ESC. 1:25



SECCION A
ESC.1:25



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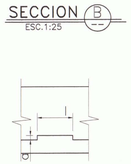
ESC.1:25



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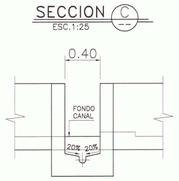
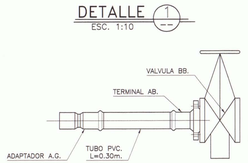
ESC.1:25



DETALLE 1
ESC. 1:10



NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS

DISPOSICION DE LAMINAS

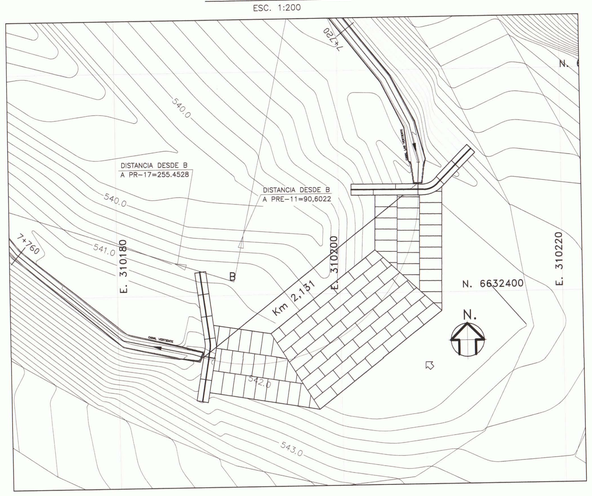
SIMBOLOGIA			
CURVA INDICE	250	CERCOS	
CURVA INTERMEDIA		CAM. PAVIMENTADO	
CAM. TIERRA		RIOS-ESTEROS	
VERTICE CANAL PROY.	VC	COTA FONDO PROY. C.F.P.	
EJE PROYECTO		PROYECTO	
TERRENO		BORDE CANAL	

GOBIERNO DE CHILE
MINISTERIO DE AGRICULTURA
COMISIÓN NACIONAL DE RIEGO

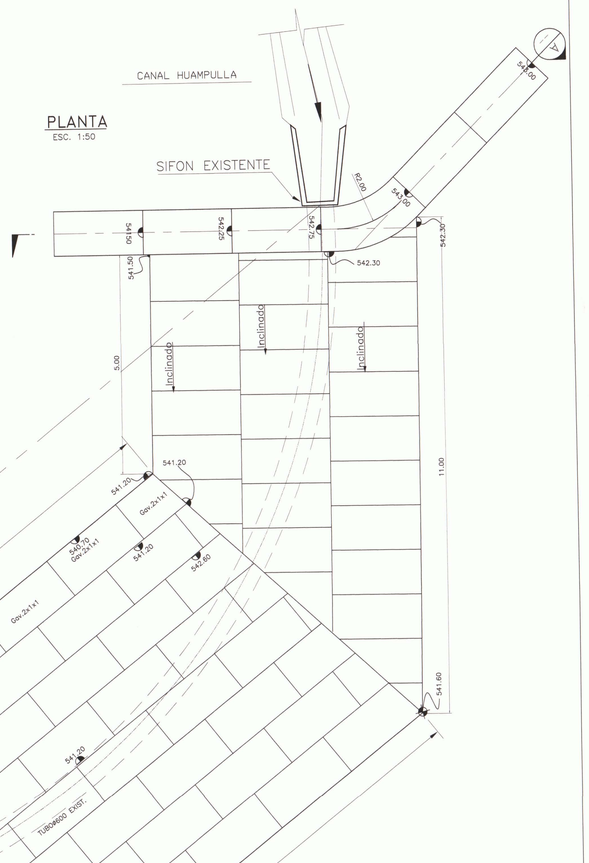
Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo			Título Plano: CANAL HUAMPULLA PLANTA Y PERFIL LONGITUDINAL
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010
			Lámina: 063-3/3

CANAL HUAMPULLA
CRUCE DE QUEBRADA HUAMPULLA Km 2.131

PLANTA GENERAL
ESC. 1:200



PLANTA
ESC. 1:50



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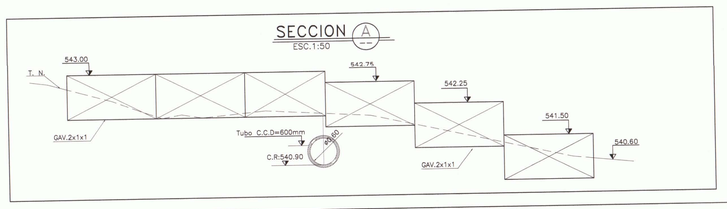

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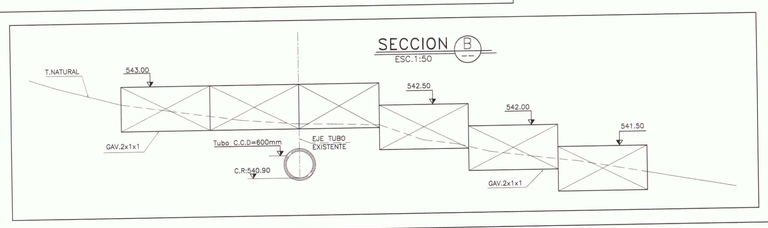

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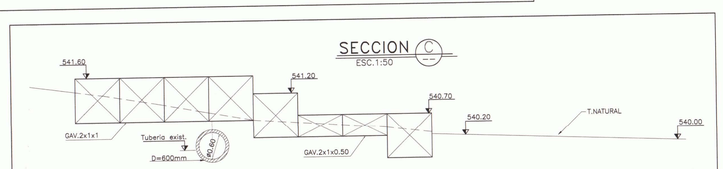
ESC.1:50



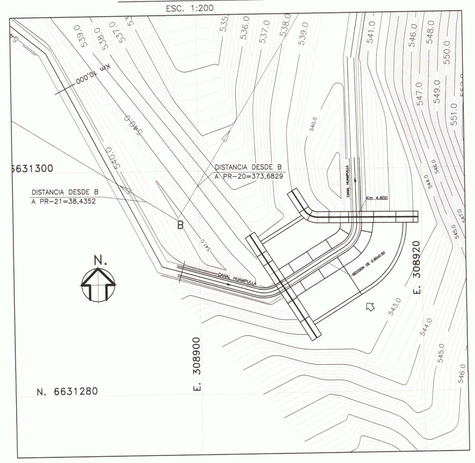
CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
17	6632480.15	309947.58	546.48

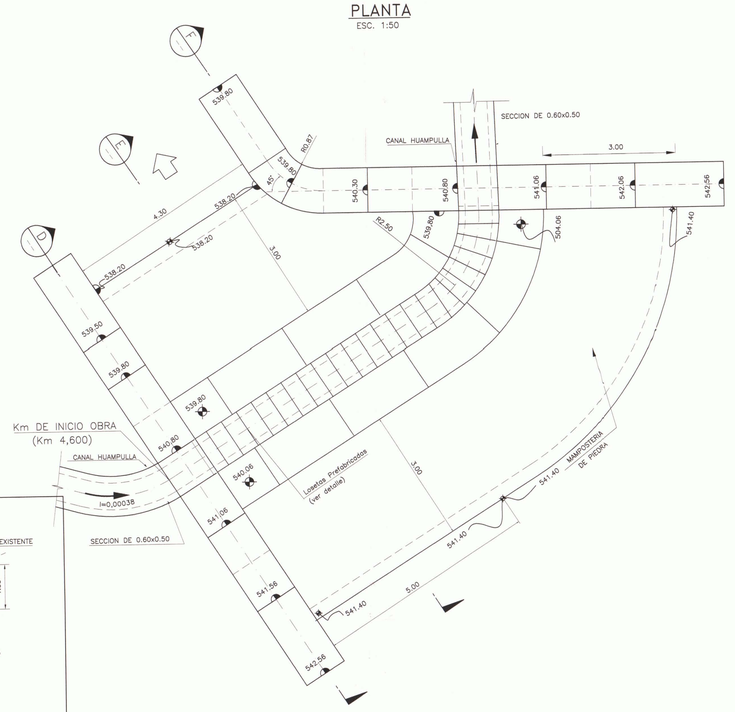
CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
11	6632493.73	310210.36	563.24

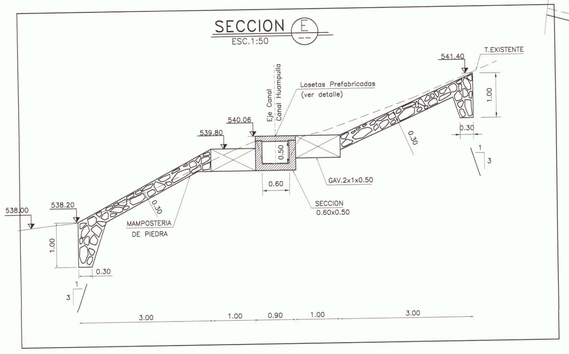
PLANTA GENERAL
ESC. 1:200



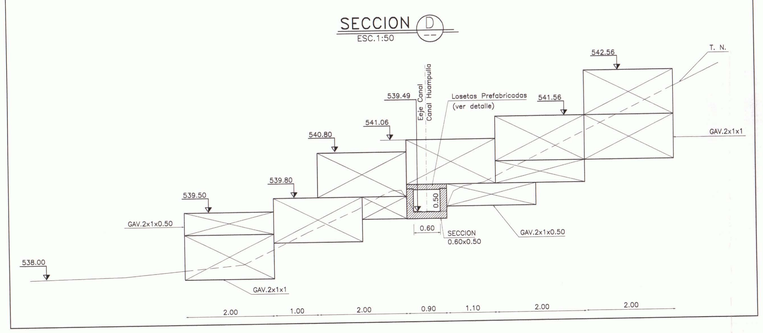
PLANTA
ESC. 1:50



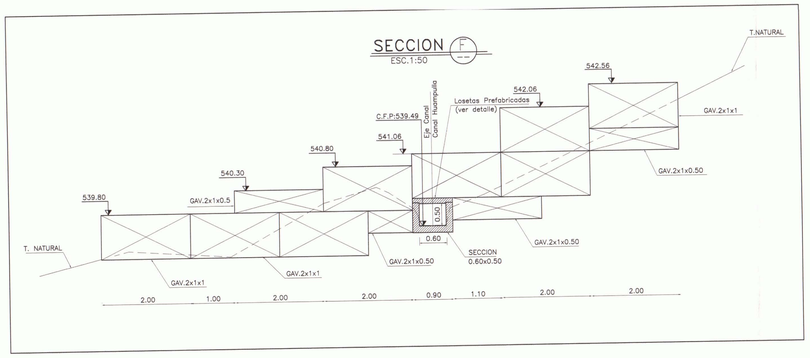
SECCION E
ESC.1:50



SECCION D
ESC.1:50



SECCION F
ESC.1:50



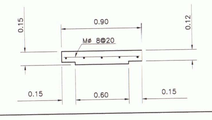
CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
20	6631614.37	309093.05	543.35
21	6631315.93	308865.43	543.18

DETALLE DE LOSETA

PLANTA
ESC. 1:25

SECCION G
ESC.1:25



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 HUAMPULLA
CRUCE DE QUEBRADAS
PLANTAS Y SECCIONES

Escala
Indicadas

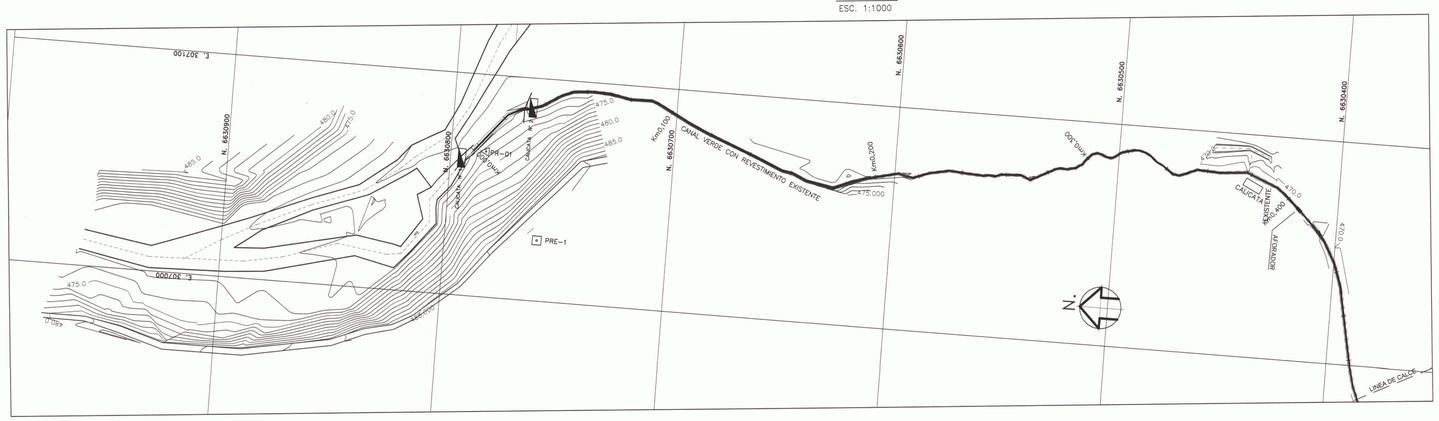
Proyección Cartográfica
UTM (Universal Transversal de mercator)
Huso 19 Sur Datum PSAD 1956

Fecha
FEBRERO 2010

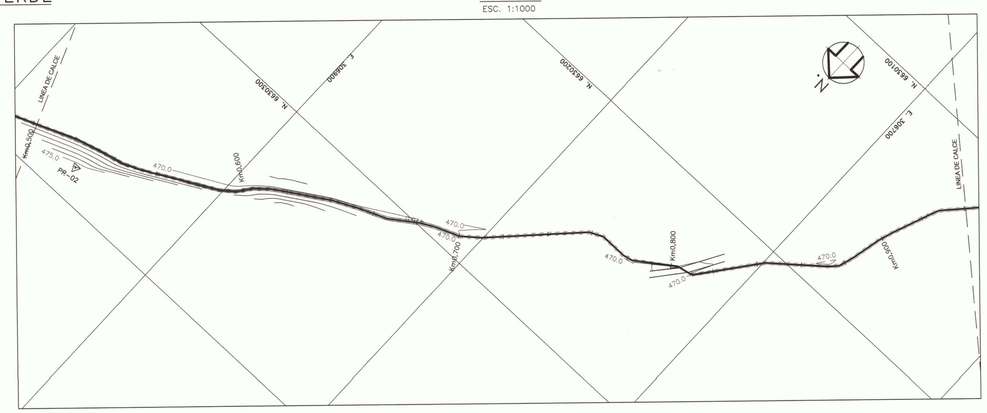
Lámina:
064-1/1

CANAL VERDE

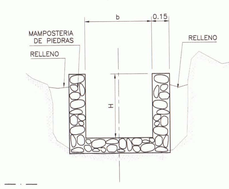
PLANTA
ESC. 1:1000



PLANTA
ESC. 1:1000



SECCION TIPO
S/E



CALICATA N° 1
Km 0,0084

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

A 1.00m DE PROFUNDIDAD SE DETECTAN BOLONES DE 25" DE DIAMETRO.

1.00

CALICATA N° 2
Km 0,0342

SUELO DE COBERTURA VEGETAL

1.00

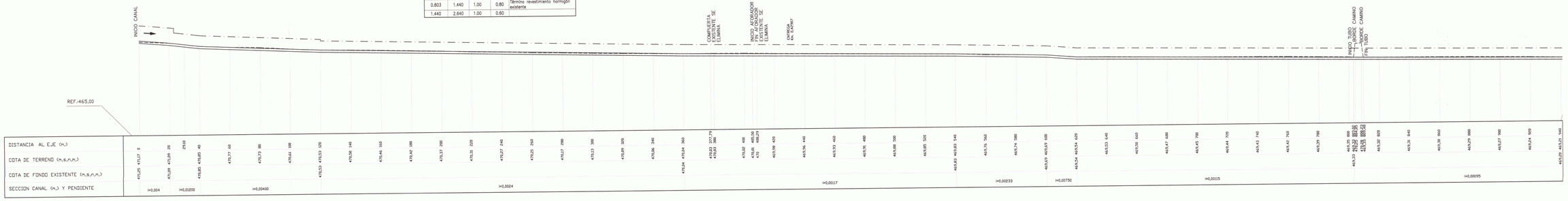
ROCA

0.50

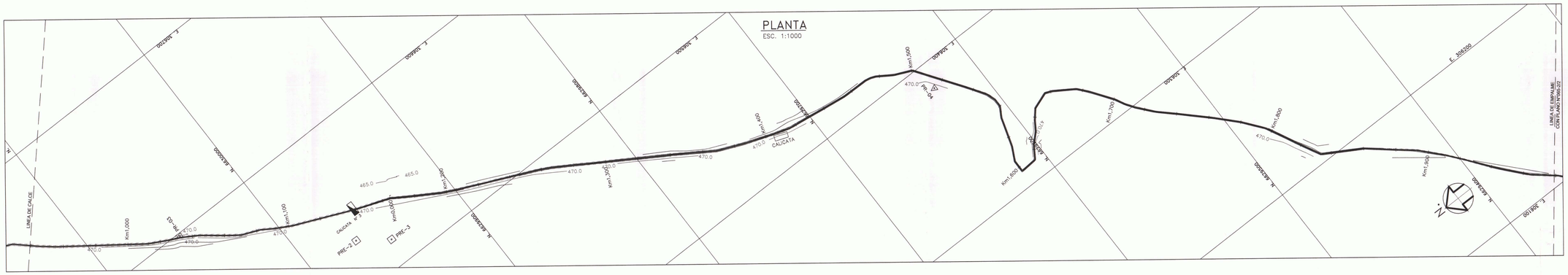
CUADRO DE SECCIONES

TRAMO (Km)		SECCION b (m)	SECCION H (m)	OBS.
0.020	0.120	0.50	0.50	
0.120	0.405	0.50	0.50	
0.405	0.459	0.50	0.50	
0.459	0.803	1.00	0.80	
0.803	1.440	1.00	0.80	Término revestimiento hormigón existente
1.440	2.640	1.00	0.60	

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



PLANTA
ESC. 1:1000



CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
01	6630784.14	307065.40	473.46
02	6630386.02	306955.91	476.21
03	6630051.27	306598.25	469.72
04	6629628.74	306384.05	470.56

CUADRO DE PR. ESTACION

PRE N°	NORTE	ESTE	COTA
01	6630758.42	307027.25	491.26
02	6629967.42	306529.21	478.44
03	6629949.72	306516.40	478.83

CUADRO DE ENTREGAS PREDIALES CANAL VERDE

Km.	DIMENSIONES(m) CANAL (m.) B	CANAL (m.) H	DIAMETRO ENTREGA (mm.)	GRADA (m.) a	GRADA (m.) i	COTAS FONDO EXIST.	COTAS FONDO PROY.
0,4299070	0.50	0.50	75	0.10	0,35	450.17	

CALICATA N° 3
Km 1,14173

0.20 — SUELO DE COBERTURA VEGETAL

0.80 — ARCILLA,HUMEDA MEDIA,PLASTICIDAD MEDIA

1.00 — ARENA ARCILLOSA,HUMEDAD MEDIA,COMPACIDAD MEDIA

PERFIL LONGITUDINAL
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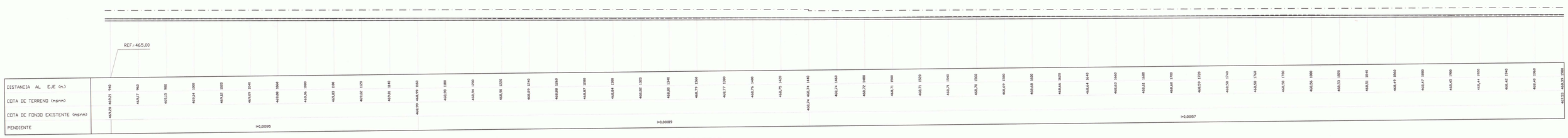
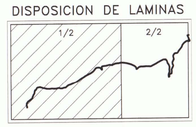
ESC. V=1:100



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	

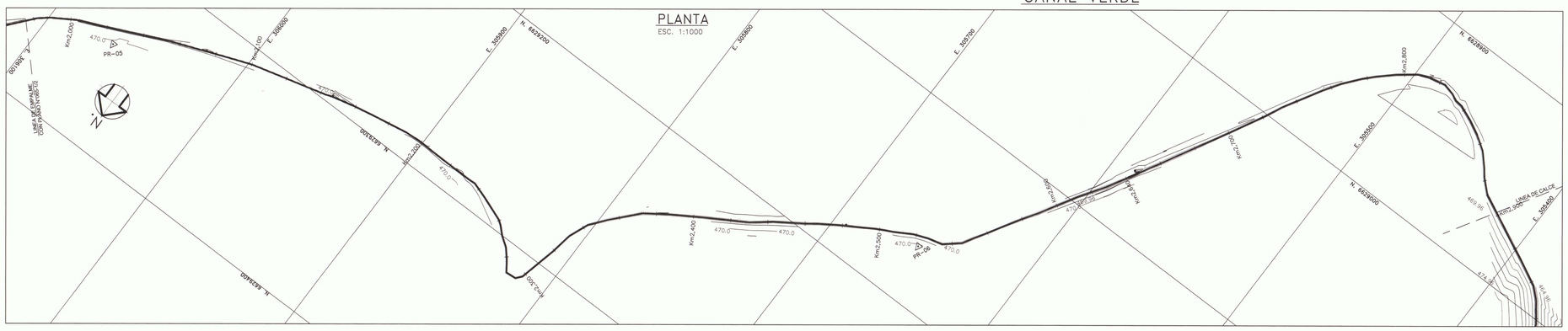
NOTAS GENERALES:

- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRA
- LAS COTAS ESTAN REFERIDAS A m.s.n.m.
- DETALLES DE ENTREGAS PREDIALES SE MUESTRAN EN PLANO N°065-2/2

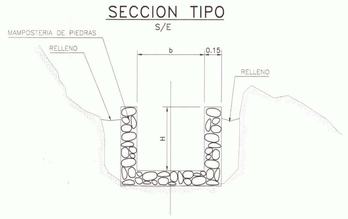
GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISION NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo		Título Plano: CANAL VERDE PLANTAS Y PERFIL LONGITUDINA
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010
			Lámina: 065-1/2

CANAL VERDE

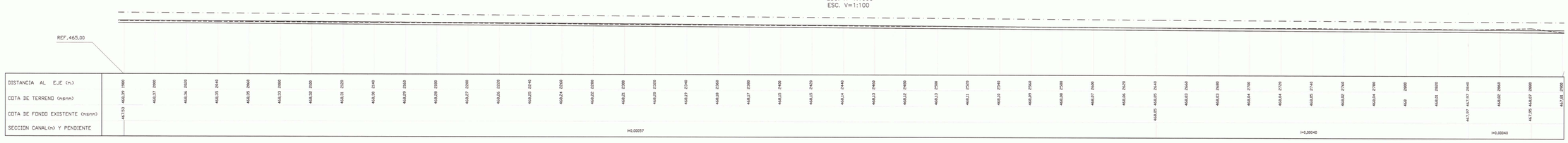
PLANTA
ESC. 1:1000



SECCION TIPO
S/E



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



PERFIL LONGITUDINAL
ESC. H=1:1000
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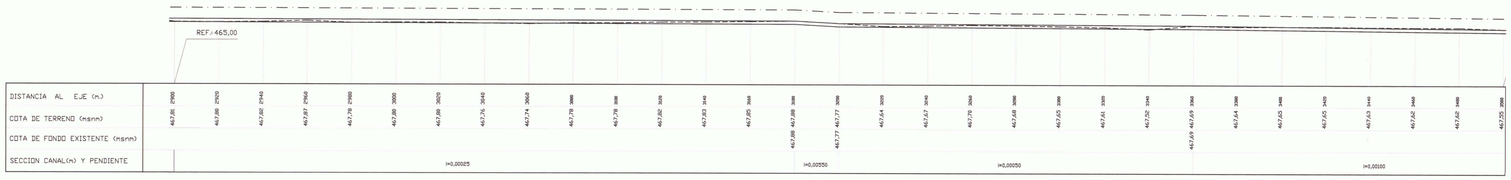

PLANTA
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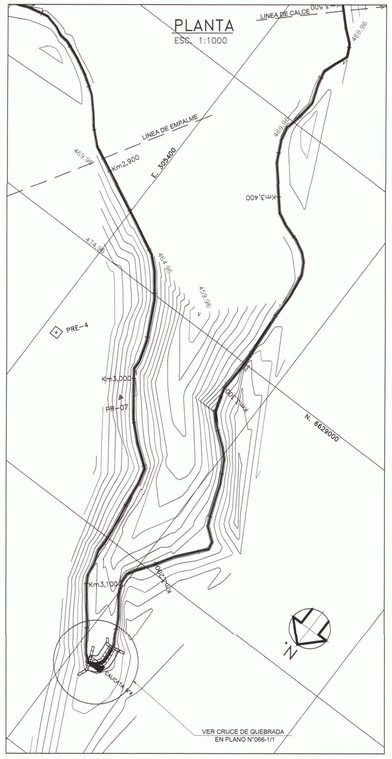
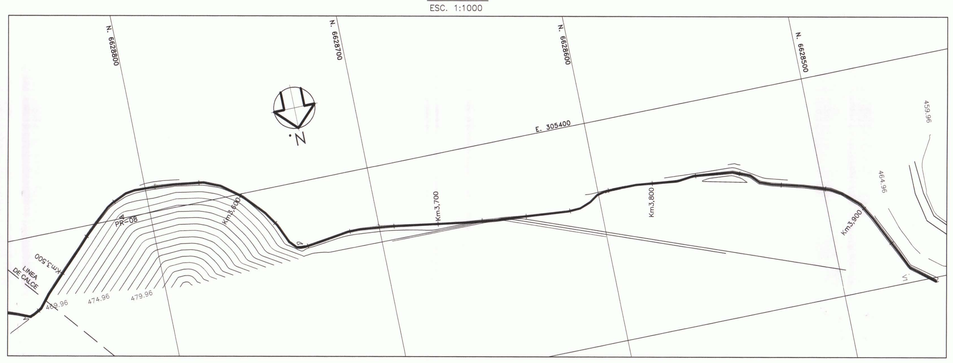


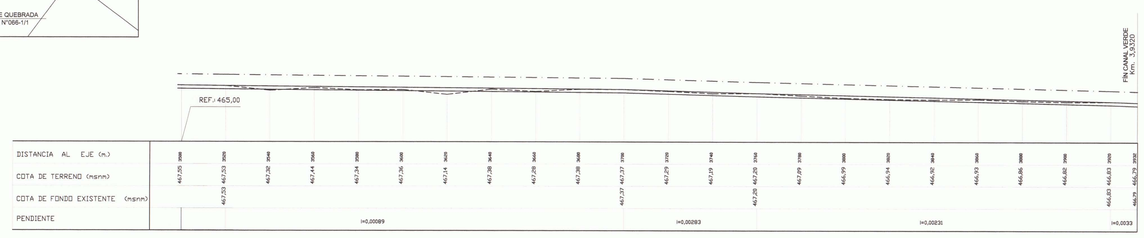
CUADRO DE SECCIONES

TRAMO (Km)		SECCION b (m)	SECCION H (m)	OBS.
1.440	2.640	1.00	0.60	
2.640	3.064	1.00	0.60	
3.064	3.360	1.00	0.50	
3.360	3.700	1.00	0.50	
3.700	3.932	1.00	0.50	

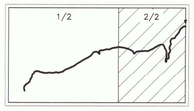
PLANTA
ESC. 1:1000



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



DISPOSICION DE LAMINAS



ENTREGAS PREDIALES

CUADRO DE DIMENSIONES

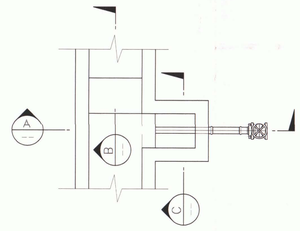
Km.	DIMENSIONES(m) CANAL (m.) B	CANAL (m.) H	DIAMETRO ENTREGA (mm.)	GRADA (m.) a	GRADA (m.) i	COTAS FONDO EXIST.	COTAS FONDO PROY.
2,0745240	1,0	0,60	75	0,15	0,25	468,38	
2,1462400	1,0	0,60	75			468,33	
2,3726110	1,0	0,60	75			468,20	
2,3861550	1,0	0,60	75			468,20	
2,4244910	1,0	0,60	75			468,17	
2,4817600	1,0	0,60	75			468,14	
2,5330790	1,0	0,60	75			468,11	
2,6184000	1,0	0,60	75			468,06	
2,6510872	1,0	0,60	75	0,15	0,25	468,05	
2,7560020	1,0	0,60	75			468,00	
2,8200000	1,0	0,60	75			467,98	
2,8558840	1,0	0,60	75	0,15	0,25	467,96	
3,0646885	1,0	0,50	75	0,20	0,25	467,91	
3,2000000	1,0	0,50	75	0,15	0,25	467,77	
3,3017125	1,0	0,50	75			467,72	
3,3445468	1,0	0,50	75			467,71	
3,4331358	1,0	0,50	75	0,10	0,25	467,62	
3,5600000	1,0	0,50	75	0,10	0,25	467,49	
3,6726007	1,0	0,50	75			467,39	

CUADRO DE PR.

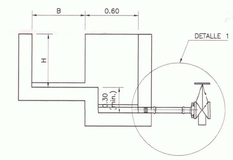
PRN°	NORTE	ESTE	COTA
05	6629344.85	306063.94	470.33
06	6629169.48	305655.44	470.39
07	6629046.08	305352.79	471.19
08	6628812.79	305400.57	470.61

DETALLE DE ENTREGAS PREDIALES

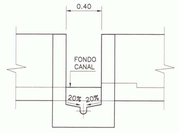
PLANTA
ESC. 1:25



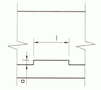
SECCION A
ESC.1:25



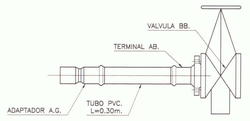
SECCION C
ESC.1:25



SECCION B
ESC.1:25



DETALLE 1
ESC. 1:10



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
- LAS COTAS ESTAN REFERIDAS A m.s.n.m.

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 VERDE PLANTA, PERFIL LONGITUDINAL Y DETALLES

CONSULTOR: GCF Ingenieros Ltda.

Escala: Indicadas

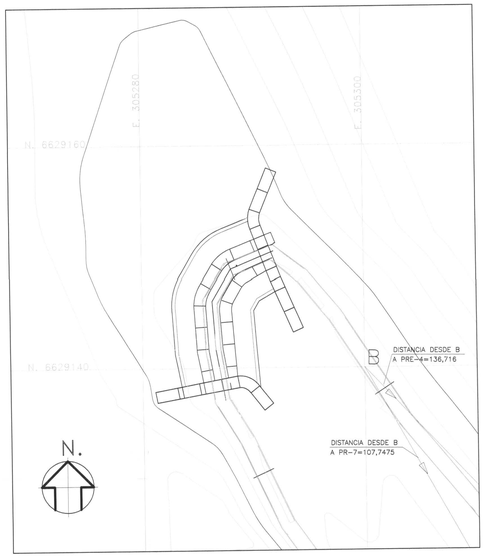
Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur. Datum PSAD 1956

Fecha: FEBRERO 2010

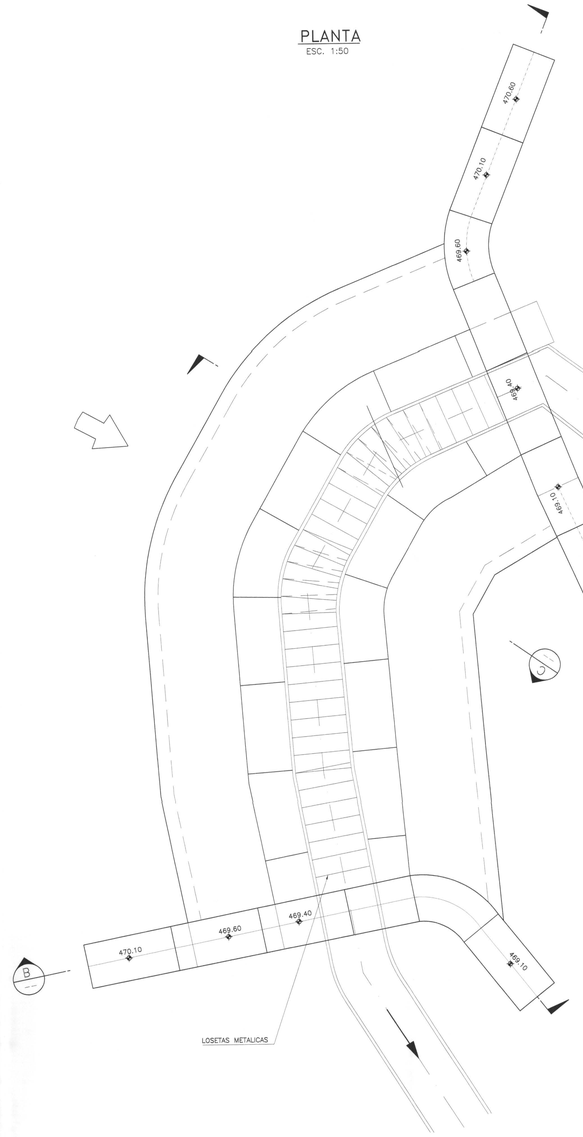
Lámina: 065-2/2

CANAL VERDE
CRUCE QUEBRADAS Km3,1

PLANTA
ESC. 1:200

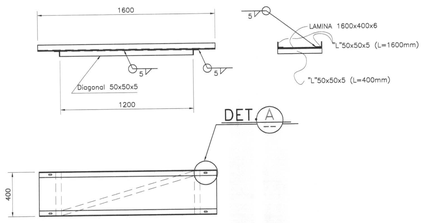


PLANTA
ESC. 1:50

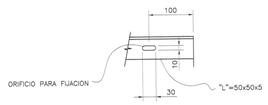


DETALLE LOSETA METALICA
ESC. 1:20

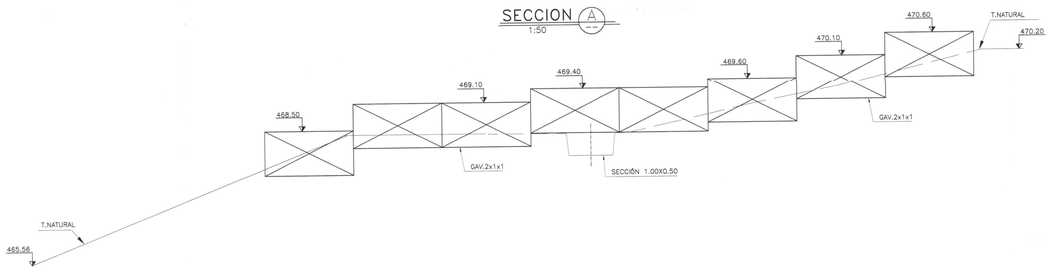
(Dimensiones en milimetros)



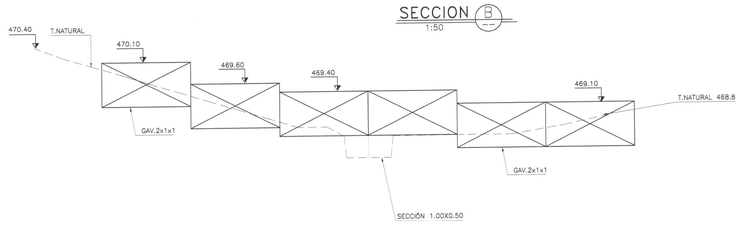
DETALLE A
ESC.1:5



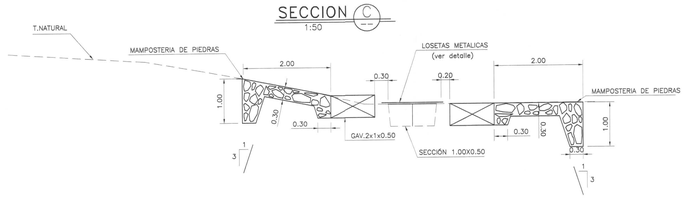
SECCION A
1:50



SECCION B
1:50

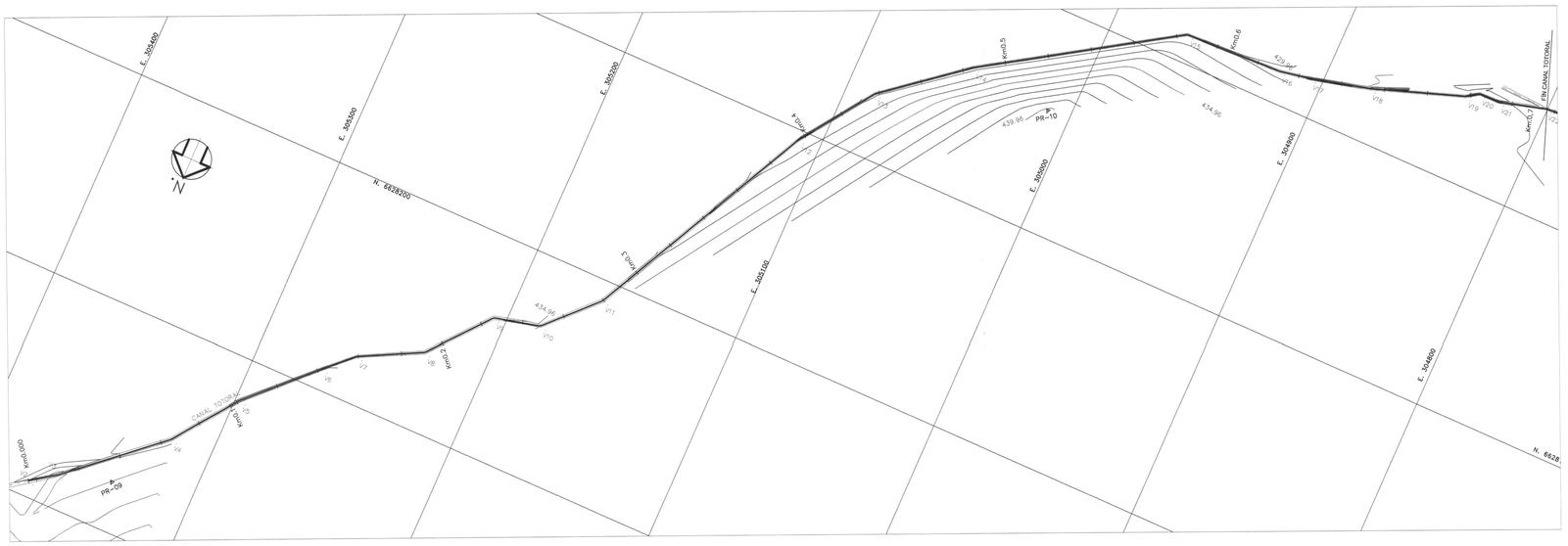


SECCION C
1:50



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 VERDE CRUCE DE QUEBRADAS PLANTAS, DETALLES 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: 066-1/1

CANAL TOTORAL
PLANTA GENERAL
ESC. 1:1000



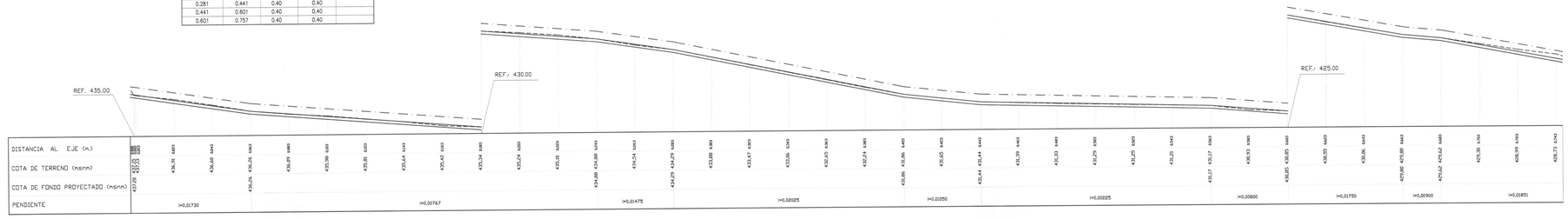
CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE Nº	COORDENADAS UBICACION ESTE	NORTE	VERTICE (m)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
	305306.71	6628468.80	3933.6		0			0.0	0.0
2	305177.45	6628392.75	4034.12	106.61	0	0.00	0.00	100.5	100.5
3	305361.31	6628384.99	4041.70	-7.15	2.5	0.14	0.28	114.0	114.3
4	305319.72	6628348.47	4103.04	-13.45	2.5	0.28	0.53	169.2	169.7
5	305297.63	6628319.17	4139.55	8.42	2.5	0.19	0.37	205.8	206.1
6	305269.17	6628290.53	4180.15	1.64	2.5	0.03	0.06	246.5	246.6
7	305268.62	6628278.67	4197.41	17.91	2.5	0.35	0.70	263.0	264.2
8	305228.70	6628264.27	4228.83	-25.51	2.5	0.51	1.00	294.7	295.7
9	305205.83	6628236.78	4264.59	40.61	2.5	0.82	1.59	330.1	331.7
10	305184.89	6628231.59	4286.35	-35.58	2.5	0.72	1.40	352.0	353.4
11	305162.90	6628209.18	4317.87	-19.51	2.5	0.39	0.77	383.0	384.3
12	305110.40	6628104.46	4434.76	9.40	2.5	0.18	0.37	500.9	501.2
13	305084.71	6628070.97	4475.98	17.86	2.5	0.35	0.70	541.9	542.6
14	305055.02	6628041.20	4523.07	6.78	2.5	0.13	0.27	589.2	589.5
15	304965.34	6627987.18	4623.02	53.86	2.5	0.68	1.33	688.5	689.8
16	304921.21	6627885.40	4668.72	-8.48	2.5	0.19	0.37	734.8	735.1
17	304905.85	6627862.88	4683.39	-4.05	2.5	0.09	0.18	749.5	749.7
18	304878.81	6627875.73	4711.31	-2.57	2.5	0.06	0.12	777.4	777.7
19	304836.94	6627861.00	4755.70	-16.83	2.5	0.33	0.66	821.8	822.3
20	304831.49	6627857.74	4762.32	37.80	2.5	0.76	1.48	827.9	829.4
21	304821.87	6627857.11	4771.84	-16.48	2.5	0.33	0.65	837.7	838.3
22	304800.81	6627851.20	4793.80	12.14	2.5	0.24	0.48	859.8	860.2
23	304784.58	6627849.86	4810.09	3.02	2.5	0.06	0.12	876.2	876.3
24	304770.55	6627849.38	4824.13	-3.43	2.5	0.07	0.13	890.2	890.4
25	304757.13	6627847.77	4837.65	32.36	2.5	0.65	1.27	903.2	904.5
26	304753.40	6627849.39	4841.68	-14.91	2.5	0.29	0.59	907.0	908.1
27	304722.11	6627854.17	4873.34	-3.75	2.5	0.07	0.15	938.4	938.6
28	304691.66	6627857.10	4903.94	3.19	2.5	0.06	0.13	970.0	970.2
29	304683.93	6627858.24	4911.75	76.31	2.5	1.54	2.78	978.4	979.1
30	304682.21	6627963.43	4917.22	10.71	2.5	0.21	0.42	982.8	983.3
31	304680.63	6627973.74	4927.65	-7.73	2.5	0.15	0.30	993.3	993.6
32	304678.48	6627981.42	4935.62	-11.96	2.5	0.22	0.44	1001.2	1001.7
33	304676.80	6627994.68	4939.24	30.98	2.5	0.62	1.22	1004.5	1005.1
34	304677.46	6628003.13	4954.70	3.08	2.5	0.04	0.08	1020.5	1020.5
35	304678.80	6628015.80	4967.41	-21.95	2.5	0.44	0.86	1033.8	1037.6
36	304675.25	6628025.09	4980.03	-26.28	2.5	0.52	1.03	1045.3	1046.3
37	304672.76	6628029.33	4985.53	-34.17	2.5	0.69	1.35	1050.6	1052.0
38	304624.04	6628046.74	5037.26	-8.62	2.5	0.17	0.34	1102.8	1103.2
39	304611.82	6628048.26	5044.63	-25.64	2.5	0.51	1.01	1109.9	1110.9
40	304611.37	6628047.19	5050.20	-21.73	2.5	0.43	0.85	1115.5	1116.4
41	304605.69	6628043.79	5056.84	8.60	2.5	0.17	0.34	1122.1	1122.4
42	304577.70	6628031.95	5087.20	3.88	2.5	0.08	0.15	1152.9	1153.0
43	304550.03	6628023.34	5111.34	13.80	2.5	0.27	0.54	1176.7	1177.2
44	304531.39	6628011.64	5135.08	19.47	2.5	0.39	0.76	1200.4	1201.2
45	304510.77	6628004.87	5156.04	2.14	2.5	0.04	0.08	1221.1	1221.2
46	304495.96	6628008.15	5171.20	-4.91	2.5	0.10	0.19	1236.8	1237.0
47	304471.91	6628031.54	5195.49	-16.99	2.5	0.34	0.67	1260.1	1260.7
48	304444.72	6628038.08	5222.90	-10.58	2.5	0.21	0.42	1288.4	1288.8
49	304435.48	6628025.30	5233.55	12.36	2.5	0.24	0.49	1298.5	1298.9
50	304416.32	6628003.40	5251.80	2.85	2.5	0.06	0.11	1317.5	1317.6
51	304379.36	6628021.42	5288.87	-2.44	2.5	0.05	0.09	1354.5	1354.6
52	304379.31	6628021.42	5313.37	5.20	2.5	0.10	0.20	1379.0	1379.2
53	304379.26	6628021.41	5383.71	-25.63	2.5	0.51	1.01	1449.3	1450.3
54	304354.61	6628018.50	5388.15	12.72	2.5	0.24	0.48	1453.6	1454.1
55	304284.51	6628018.50	5412.70	-10.28	2.5	0.20	0.41	1478.2	1478.6
56	304280.50	6628018.75	5431.50	-15.77	2.5	0.30	0.63	1496.9	1497.5
57	304256.54	6628011.41	5450.35	-10.16	2.5	0.20	0.40	1515.8	1516.2
58	304239.08	6628004.40	5471.12	33.10	2.5	0.66	1.30	1536.5	1537.8
59	304223.88	6627993.27	5501.27	32.77	2.5	0.66	1.29	1566.3	1567.6
60	304209.29	6627978.48	5512.33	-50.56	2.5	1.10	2.08	1578.1	1579.9
61	304180.26	6627970.38	5519.63	25.49	2.5	0.51	1.00	1584.6	1585.6
62	304169.52	6627973.04	5533.77	-14.58	2.5	0.33	0.65	1598.7	1599.3
63	304163.45	6627968.98	5544.28	-28.72	2.5	0.53	1.05	1609.2	1610.3
64	304150.54	6627968.53	5560.35	10.79	2.5	0.21	0.42	1625.3	1625.8
65	304140.17	6627961.53	5582.04	17.97	2.5	0.36	0.71	1647.2	1647.8
66	304129.64	6627948.34	5592.65	-18.28	2.5	0.36	0.64	1657.8	1658.4
67	304113.16	6627935.33	5609.89	13.01	2.5	0.26	0.51	1675.1	1675.6
68	304103.48	6627931.04	5630.28	13.62	2.5	0.27	0.54	1695.5	1696.0
69	304089.95	6627920.33	5659.65	24.98	2.5	0.50	0.98	1724.6	1725.6
70	304071.15	6627911.18	5701.30	-9.08	2.5	0.18	0.36	1766.8	1767.2
71	304043.38	6627903.83	5709.00	-10.18	2.5	0.20	0.40	1774.2	1774.6
72	304002.06	6627909.64	5724.41	10.10	2.5	0.20	0.40	1789.7	1790.0
73	303994.36	6627909.63	5749.40	17.79	2.5	0.34	0.68	1814.5	1815.2
74	303979.15	6627907.13	5769.09	39.52	2.5	0.80	1.58	1833.3	1834.9
75	303954.15	6627907.05	5779.19	-37.06	2.5	0.76	1.49	1843.8	1845.3
76	303935.19	6627912.29	5792.19	-7.93	2.5	0.16	0.31	1857.4	1857.7
77	303928.84	6627920.14	5801.81	-8.91	2.5	0.18	0.35	1867.1	1867.4
78	303918.40	6627923.96	5817.93	0.00	0	0.00	0.00	1883.3	1883.3
79	303906.83	6627926.64	5837.38	-61.14	1.5	0.78	1.44	1901.9	1903.4

CUADRO DE SECCIONES

TRAMO (Km)		SECCION b (m)	SECCION H (m)	OBS.
0.000	0.061	0.40	0.40	
0.061	0.241	0.40	0.40	
0.241	0.281	0.40	0.40	
0.281	0.441	0.40	0.40	
0.441	0.601	0.40	0.40	
0.601	0.757	0.40	0.40	

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



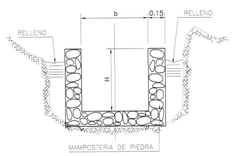
CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
09	6628377.72	305337.03	440.09
10	6628045.45	305010.67	440.28
11	6628050.08	304612.47	429.23
12	6627968.47	304131.39	425.12

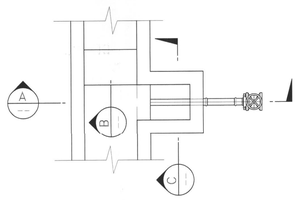
CUADRO DE PR. ESTACION

PRE N°	NORTE	ESTE	COTA
05	6628070.97	304597.25	438.35

SECCION TIPO
S/E



PLANTA
ESC. 1:25



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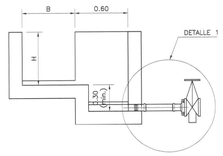

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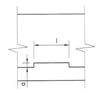

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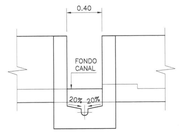
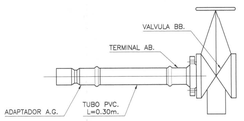


DETALLE 1
ESC. 1:10



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
- LAS COTAS ESTAN REFERIDAS A m.s.n.m.

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 TOTORAL PLANTAS, 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: 067-1/1

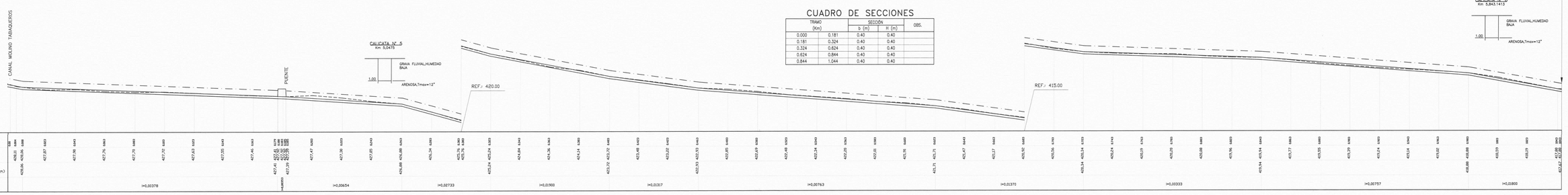
CANAL MOLINO TABAQUEROS

PLANTA GENERAL

ESC. 1:1000

PERFIL LONGITUDINAL

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



CUADRO DE SECCIONES

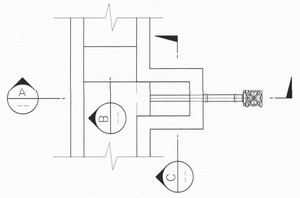
TRAMO (Km)		SECCIÓN b (m)	SECCIÓN H (m)	OBS.
0,000	0,181	0,40	0,40	
0,181	0,324	0,40	0,40	
0,324	0,624	0,40	0,40	
0,624	0,844	0,40	0,40	
0,844	1,044	0,40	0,40	

CUADRO DE DESARROLLO DE CURVAS Y VERTICES

VERTICE N°	COORDENADAS UBICACION ESTE	NORTE	VERTICE (m)	ANGULO (g)	RADIO (m)	TANGENTE (m)	DESARROLLO (m)	INICIO CURVA (m)	FIN CURVA (m)
1	305306,71	6628468,80	3933,8		0	0,00	0,00	0,0	0,0
2	305372,45	6628362,75	4034,12	106,63	0	0,00	0,00	100,5	100,5
3	305381,31	6628384,99	4047,70	-7,13	2,5	0,14	0,28	114,0	114,2
4	305319,72	6628348,47	4103,04	-13,46	2,5	0,26	0,53	189,2	189,7
5	305297,93	6628319,17	4139,55	5,42	2,5	0,19	0,37	205,8	206,1
6	305288,17	6628290,53	4180,15	1,64	2,5	0,03	0,06	246,5	246,6
7	305258,62	6628278,67	4197,41	17,91	2,5	0,35	0,70	263,5	264,2
8	305228,70	6628264,27	4228,83	-24,55	2,5	0,51	1,00	294,7	295,7
9	305209,83	6628236,76	4264,59	40,51	2,5	0,83	1,59	330,1	331,7
10	305184,69	6628231,59	4286,35	-35,58	2,5	0,72	1,40	352,0	353,4
11	305162,90	6628208,18	4317,61	-19,51	2,5	0,39	0,77	383,5	384,3
12	305110,40	6628184,46	4434,78	9,40	2,5	0,18	0,37	500,9	501,2
13	305086,71	6628070,73	4479,98	17,88	2,5	0,35	0,70	541,9	542,6
14	305050,02	6628041,20	4523,07	6,78	2,5	0,13	0,27	586,2	586,5
15	304995,94	6627987,18	4623,02	33,89	2,5	0,68	1,33	686,6	687,9
16	304903,27	6627985,40	4668,72	-9,46	2,5	0,19	0,37	734,8	735,1
17	304903,85	6627962,65	4683,36	-4,02	2,5	0,08	0,16	749,6	749,7
18	304878,81	6627975,72	4711,51	-5,56	2,5	0,11	0,22	777,4	777,7
19	304836,94	6627981,00	4755,70	-16,83	2,5	0,33	0,66	821,6	822,3
20	304831,49	6627957,24	4781,32	37,60	2,5	0,76	1,48	827,9	829,3
21	304821,97	6627957,11	4771,84	-16,48	2,5	0,33	0,65	837,7	838,3
22	304800,81	6627951,20	4793,80	12,14	2,5	0,24	0,48	859,8	860,2
23	304784,59	6627949,86	4810,09	3,02	2,5	0,06	0,12	876,2	876,3
24	304770,55	6627949,38	4824,13	-5,41	2,5	0,11	0,21	890,2	890,4
25	304757,13	6627947,77	4837,65	32,38	2,5	0,65	1,27	903,2	904,5
26	304753,40	6627949,29	4841,68	-14,81	2,5	0,29	0,59	907,5	908,1
27	304722,11	6627954,17	4873,34	-3,73	2,5	0,07	0,15	939,4	939,6
28	304691,66	6627957,10	4903,94	3,19	2,5	0,06	0,13	970,0	970,2
29	304683,93	6627958,24	4911,75	70,31	2,5	1,54	2,76	978,4	979,1
30	304680,21	6627953,43	4917,22	10,71	2,5	0,21	0,42	982,8	983,3
31	304680,83	6627973,74	4927,65	-7,72	2,5	0,15	0,30	993,3	993,6
32	304678,46	6627981,42	4935,62	-11,26	2,5	0,22	0,44	1001,2	1001,7
33	304676,90	6627984,68	4939,24	30,98	2,5	0,62	1,22	1004,5	1005,7
34	304677,46	6628000,13	4954,70	2,08	2,5	0,04	0,08	1020,5	1020,5
35	304678,60	6628015,80	4971,41	-21,95	2,5	0,44	0,86	1036,8	1037,6
36	304678,25	6628025,09	4980,03	-26,28	2,5	0,52	1,03	1045,3	1046,3
37	304677,76	6628029,33	4985,53	-34,27	2,5	0,69	1,35	1050,6	1052,0
38	304674,04	6628048,74	5007,26	-8,62	2,5	0,17	0,34	1072,8	1073,2
39	304661,82	6628048,26	5044,63	-26,44	2,5	0,51	1,01	1109,9	1110,9
40	304661,37	6628047,19	5060,30	-21,73	2,5	0,43	0,85	1125,5	1126,4
41	304655,68	6628043,79	5094,84	8,62	2,5	0,17	0,34	1122,4	1122,7
42	304577,70	6628031,95	5087,20	3,88	2,5	0,08	0,15	1152,5	1152,6
43	304550,03	6628023,94	5113,24	13,85	2,5	0,27	0,54	1178,7	1177,2
44	304531,39	6628021,04	5135,08	19,47	2,5	0,39	0,76	1200,4	1201,2
45	304510,77	6628024,87	5156,04	2,41	2,5	0,04	0,08	1221,1	1221,2
46	304495,96	6628028,15	5171,20	-4,91	2,5	0,10	0,19	1236,8	1237,0
47	304471,91	6628031,54	5195,49	-16,66	2,5	0,34	0,67	1260,9	1261,5
48	304444,72	6628028,08	5222,90	-10,58	2,5	0,21	0,42	1288,4	1288,8
49	304435,48	6628025,30	5233,55	12,38	2,5	0,24	0,49	1298,0	1298,5
50	304416,33	6628023,40	5251,80	2,65	2,5	0,06	0,11	1317,5	1317,6
51	304379,36	6628021,42	5288,87	-2,42	2,5	0,05	0,09	1354,5	1354,6
52	304379,31	6628021,42	5313,37	5,20	2,5	0,10	0,20	1379,0	1379,2
53	304379,26	6628021,41	5383,77	-25,65	2,5	0,51	1,01	1449,0	1450,0
54	304354,91	6628019,18	5388,15	12,32	2,5	0,24	0,48	1453,6	1454,1
55	304284,51	6628018,50	5413,70	-10,38	2,5	0,20	0,41	1478,2	1478,6
56	304280,50	6628018,75	5431,53	-15,91	2,5	0,32	0,63	1496,9	1497,5
57	304254,54	6628011,41	5450,35	-10,16	2,5	0,20	0,40	1515,8	1516,2
58	304239,06	6628004,40	5471,12	33,10	2,5	0,66	1,30	1536,2	1537,5
59	304238,98	6627993,27	5501,27	32,77	2,5	0,66	1,29	1566,3	1567,6
60	304229,29	6627978,48	5512,33	-52,95	2,5	1,10	2,08	1578,9	1578,9
61	304180,25	6627970,38	5512,63	25,49	2,5	0,51	1,00	1584,6	1585,6
62	304163,23	6627973,04	5532,77	-14,52	2,5	0,33	0,65	1597,9	1598,6
63	304163,45	6627958,98	5544,28	-28,72	2,5	0,53	1,05	1609,2	1610,3
64	304150,54	6627959,52	5562,28	10,79	2,5	0,21	0,42	1625,3	1625,7
65	304143,17	6627961,53	5582,04	17,97	2,5	0,36	0,71	1647,2	1647,9
66	304129,84	6627948,34	5592,65	-16,26	2,5	0,32	0,64	1657,9	1658,4
67	304113,16	6627935,33	5609,89	13,07	2,5	0,26	0,51	1675,1	1675,6
68	304102,46	6627931,04	5630,28	13,62	2,5	0,27	0,53	1695,5	1696,0
69	304089,98	6627920,32	5659,65	24,98	2,5	0,50	0,98	1724,6	1725,6
70	304071,76	6627911,16	5701,30	-9,06	2,5	0,18	0,36	1766,6	1766,9
71	304043,31	6627903,82	5709,00	-10,15	2,5	0,20	0,40	1774,2	1774,6
72	304002,06	6627909,64	5724,41	10,10	2,5	0,20	0,40	1789,7	1790,0
73	303994,36	6627909,62	5749,42	17,39	2,5	0,34	0,68	1814,5	1815,2
74	303979,16	6627907,13	5769,09	39,52	2,5	0,80	1,55	1833,7	1835,3
75	303954,15	6627907,05	5779,19	-37,70	2,5	0,76	1,48	1843,8	1845,3
76	303935,19	6627912,29	5792,19	-7,83	2,5	0,16	0,31	1857,4	1857,7
77	303928,84	6627920,14	5801,91	-8,91	2,5	0,18	0,35	1867,1	1867,4
78	303918,40	6627923,96	5817,63	0,00	0	0,00	0,00	1883,3	1883,3
79	303908,83	6627925,64	5837,38	-61,14	1,5	0,78	1,44	1901,9	1903,4

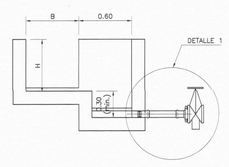
PLANTA

ESC. 1:25



SECCION A

ESC.1:25



SECCION B

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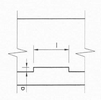

SECCION C

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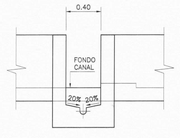


CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
09	6628377.72	305337.03	440.09
10	6628045.45	305010.67	440.28
11	6628050.08	304612.47	429.23
12	6627968.47	304131.39	425.12

CUADRO DE PR. ESTACION

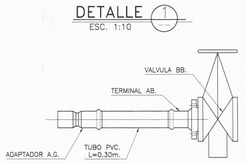
PRE N°	NORTE	ESTE	COTA
05	6628070.97	304597.25	438.35

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	

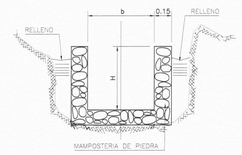
DETALLE 1

ESC. 1:10



SECCION TIPO

S/E



NOTAS GENERALES:

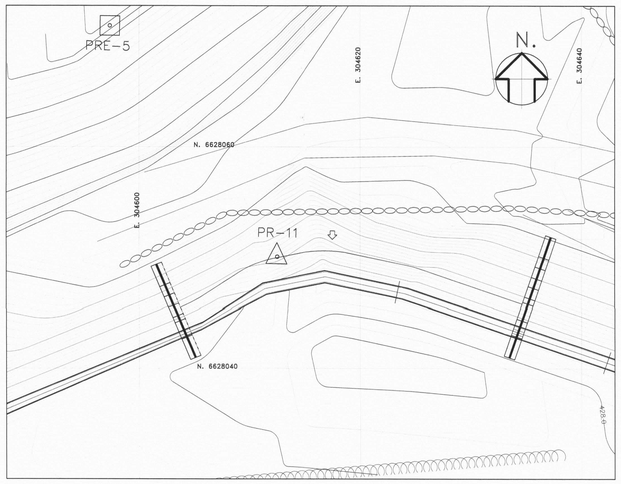
- TODAS LAS OBRAS SON DE MAMPOSTERIA DE PIEDRAS
- LAS COTAS ESTAN REFERIDAS A m.s.n.m.

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 MOLINO TABAQUEROS PLANTAS, PERFILE LONGITUDINAL Y DETALLES	
	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010
			Lámina: 068-1/1

CANAL MOLINO TABAQUEROS
CRUCE QUEBRADA EL MANZANO Km 0,963

PLANTA
ESC. 1:200



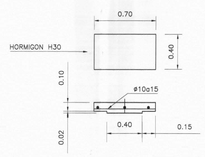
CUADRO DE PR.

PR N°	NORTE	ESTE	COTA
07	6629046.07	305352.80	471.19
11	6628050.08	304612.47	429.23

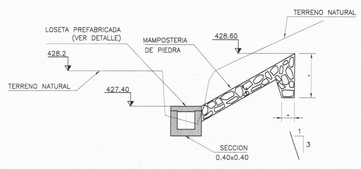
CUADRO DE PR. ESTACION

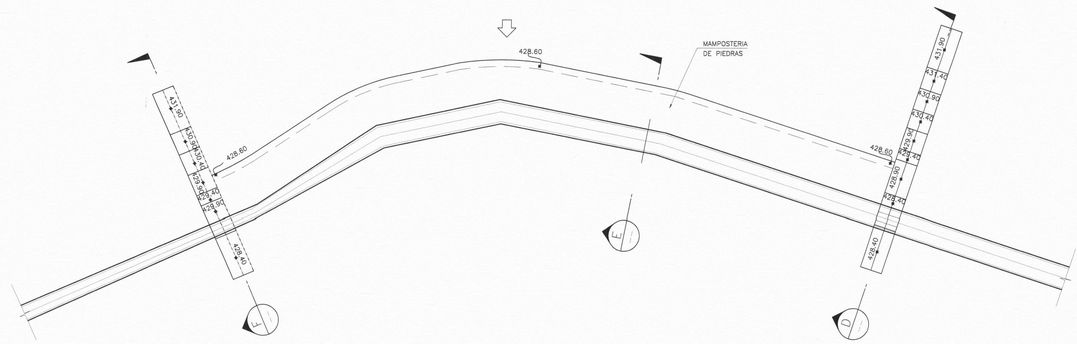
PRE N°	NORTE	ESTE	COTA
04	6629040.46	305393.72	487.25
05	6628070.96	304597.35	438.35

DETALLE LOSETAS
ESC. 1:25

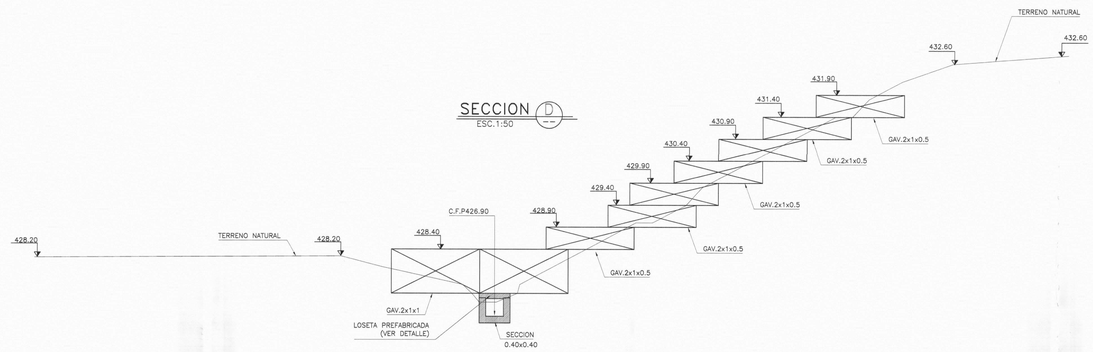


SECCION E
ESC.1:50

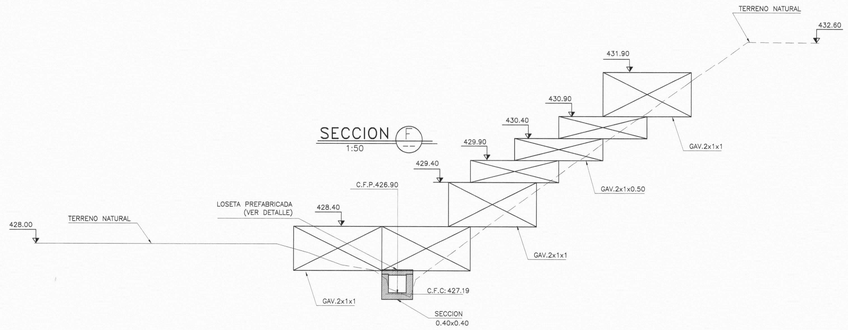




SECCION D
ESC.1:50



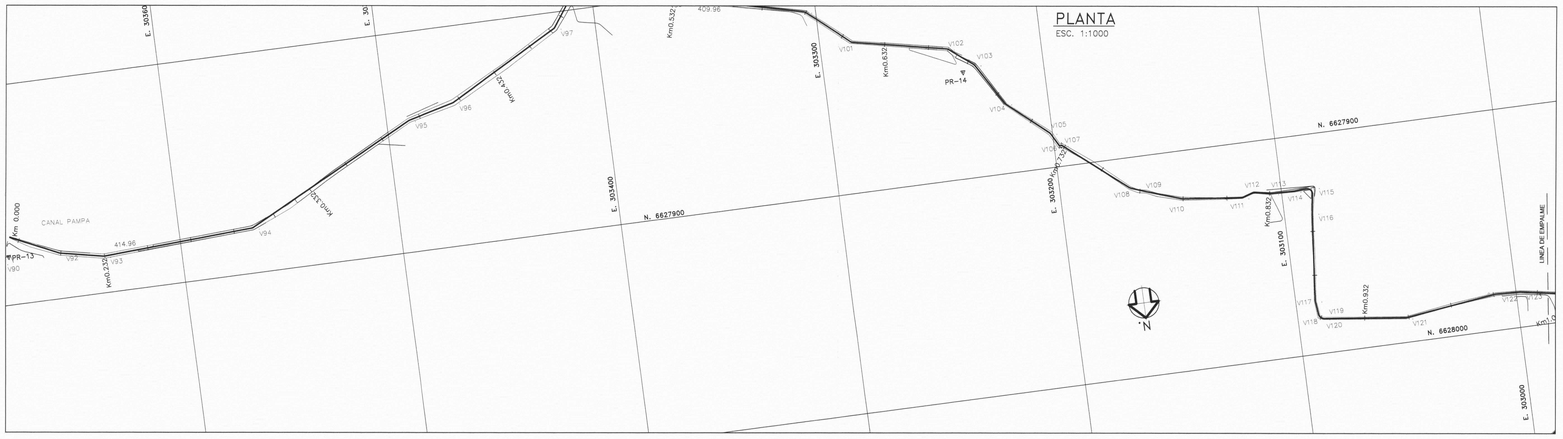
SECCION F
1:50



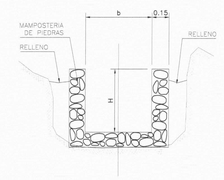
GOBIERNO DE CHILE MINISTERIO DE AGRICULTURA COMISION NACIONAL DE RIEGO	Nombre Estudio: Estudio de Prefactibilidad Mejoramiento del Sistema de Riego del Río Hurtado IV Región de Coquimbo	Título Plano: CANAL MOLINO - TABAQUEROS CRUCE DE QUEBRADAS PLANTAS, DETALLES Y SECCIONES	
CONSULTOR: GCF Ingenieros Ltda.	Escala: Indicadas	Proyección Cartográfica: UTM (Universal Transversal de mercator) Huso 19 Sur Datum PSAD 1956	Fecha: FEBRERO 2010
			Lámina: 069-1/1

CANAL PAMPA DE LOS MARINES

PLANTA
ESC. 1:1000



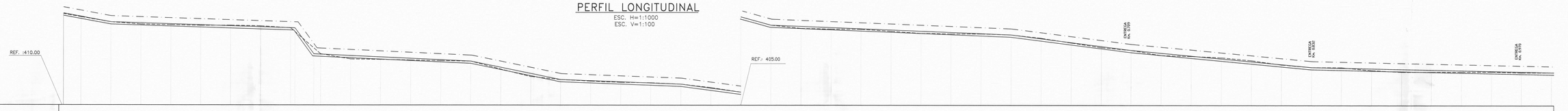
SECCION TIPO
S/E



CUADRO DE PR.

PE N	NORTE	ESTE	COTA
13	6627878.08	303678.51	415.08
14	6627851.66	303236.83	409.68
15	6628093.26	302916.11	410.76
16	6628073.87	302334.59	406.67

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



| DISTANCIA AL EJE (m.) | 1888 1882 1880 1880 1880