



**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY  
ESPÍRITO SANTO**

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**Trecho: Água Pretinha / Santa Lúcia - Cancela**

**Extensão: 7,40 km**

**Contrato n.º 000166/2014**

**Projeto Executivo de Engenharia Para  
Melhorias Operacionais e Pavimentação  
de Rodovias Municipais**

**Volume 3D - Notas de Serviços  
e Cálculo de Volumes**

**Minuta**

**Projemax**  
Engenharia e Consultoria Ltda.

**Julho / 2015**





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## **Projeto Executivo de Engenharia Para Melhorias Operacionais e Pavimentação de Rodovias Municipais**

**Volume 3D - Notas de Serviços  
e Cálculo de Volumes**

**Contratante:** Município de Presidente Kennedy - Estado do Espírito Santo

**Contratado:** Projemax Engenharia e Consultoria Ltda.

**Contrato:** 000166/2014

**Objeto:** Projetos Executivos de Engenharia Civil para Melhorias Operacionais e Pavimentação Rodovias Vicinais Municipais Localizadas nos Seguintes Trechos: Estrada Leonel - Alegria, Estrada Cancela - Santa Lúcia - ES 132, Água Pretinha/Santa Lúcia - Divisa Atílio Vivácqua, Água Pretinha - Água Preta - Divisa Atílio Vivácqua, São Paulo - Água Pretinha, São Paulo - Cabral - Divisa com Itapemirim (Brejo Grande), Água Pretinha/Santa Lúcia - Cancela

## **Minuta**

**Projemax**  
Engenharia e Consultoria Ltda.

Julho / 2015



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## 1.0 – IDENTIFICAÇÃO DA EMPRESA / HISTÓRICO DO CONTRATO

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## 1.0 – IDENTIFICAÇÃO DA EMPRESA/HISTÓRICO DO CONTRATO

### 1.1 – INTRODUÇÃO

PROJEMAX Engenharia e Consultoria Ltda. apresenta, à consideração da **Prefeitura Municipal de Presidente Kennedy – ES (PMPK)**, o **Volume 3D – Notas de Serviço e Cálculo de Volumes do Relatório Final - Minuta, Trecho 03** Água Pretinha / Santa Lúcia - Cancela, referente à “Elaboração de Projetos Executivos de Engenharia Civil Para Melhorias Operacionais de Rodovias Municipais”, que compõem o lote II do Edital de Concorrência 04/2014.

### 1.2 – IDENTIFICAÇÃO DA EMPRESA

Empresa: .....Projemax Engenharia e Consultoria Ltda.  
CNPJ: .....35.788.793/0001-30  
Inscrição Estadual: ..... Isenta  
Inscrição Municipal (Rio de Janeiro): .....16.521-2  
Sede - Endereço: .....Av. Rio Branco, 257 / Grupo 1903 – Centro  
CEP: 20.040-009 Rio de Janeiro – RJ  
Tel / Fax: .....(21) 2533 7972 / (21) 2533 6758  
Endereço Eletrônico: .....projemax@projemax.com.br  
Tel.: .....(27) 3711 5944 / (27) 9987 9100  
Responsáveis Técnicos: .....Rodolpho Giovanni Bonelli (CREA-RJ 30.906-D)  
Eduardo Leite Gulo (CREA-SP)

### 1.3 – HISTÓRICO DO CONTRATO

Processo N.º: .....003961/2013  
Edital de Concorrência Pública: ..... Edital de Concorrência 004/2014  
Data da Concorrência: ..... 08 de abril de 2014

Objeto:..... Serviços Técnicos de Engenharia para Elaboração de Projetos Executivos de Engenharia Civil para Melhorias Operacionais e Pavimentação de Rodovias Vicinais Municipais Localizadas nos seguintes Trechos: Estrada Leonel – Alegria, Estrada Cancela – Leonel ES 162, Águas Pretinhas/Santa Lúcia – Divisa Atílio Vivácqua, Água Pretinha – Água Preta – Divisa Atílio Vivácqua, São Paulo – Água Pretinha, São Paulo – Cabral – Divisa com Itapemirim (Brejo Grande), Água Pretinha/Santa Lúcia - Cancela

Prazo para Elaboração dos Serviços: .....365 Dias Corridos  
Contrato N.º: .....000166/2014  
Data de Assinatura: .....09 de Julho de 2014  
Data da Ordem de Início dos Serviços: ..... 18 de Agosto de 2014  
Valor Total do Contrato: ..... R\$ 1.988.750,17  
Saldo Contratual Financeiro..... R\$ 1.988.750,17  
Saldo Prazo Contratual.....260 Dias Corridos

## **1.4 – CONSTITUIÇÃO DO RELATÓRIO DE PROJETO**

### **1.4.1 - VOLUME 1 – RELATÓRIO DE PROJETO E INFORMAÇÕES PARA LICITAÇÃO**

O volume contém a descrição sucinta e resumida das soluções propostas para a execução dos serviços e obras necessárias à construção da rodovia, dos estudos e itens de projetos executivos elaborados, inclusive a além de fornecer os elementos necessários para a licitação das obras tais como: Especificações, Plano de Execução da Obra, Cronogramas, Equipes, etc.

### **1.4.2 - VOLUME 2 – PROJETO DE EXECUÇÃO**

Neste volume é apresentada a documentação gráfica do Projeto de Execução, inclusive projeto tipo.

### **1.4.3 - VOLUME 3 – MEMÓRIA JUSTIFICATIVA**

O volume contém a memória descritiva adotada para a elaboração dos projetos, descrevendo de forma ampla e abrangendo os estudos realizados, a metodologia adotada, os itens de projeto desenvolvidos, suas conclusões e recomendações.

### **1.4.4 - VOLUME 4 – ORÇAMENTO E PLANO DE EXECUÇÃO**

Neste volume são apresentadas quantidades auferidas para a elaboração do orçamento dos serviços a serem executados, com memória de cálculo das estruturas projetadas, planilha de quantidades e a planilha resumo por etapas de serviços.

#### 1.4.5 - VOLUME 3A – ESTUDOS E PROJETOS AMBIENTAIS

Este volume consiste nos levantamentos de dados e informações que permitem uma adequada inserção das variáveis ambientais no projeto final de engenharia, a elaboração de programas e projetos para mitigar e compensar os impactos significativos das fases de execução e operação da rodovia bem como a obtenção das Licenças Ambientais necessárias.

#### 1.4.6 - VOLUME 3B– ESTUDOS GEOTÉCNICOS

Neste volume são apresentados os boletins de sondagem e os resumos de estudos do subleito e empréstimos, os ensaios e as misturas necessários à elaboração desses estudos como também, os ensaios da pedreira e areal a serem utilizados.

#### 1.4.7 - VOLUME 3D– NOTAS DE SERVIÇO E CÁLCULO DE VOLUMES

Neste volume são apresentadas as notas de serviço referentes ao greide de terraplenagem projetado e a memória de cálculo dos volumes de terra movimentado.

#### 1.4.8 - VOLUME 3E – CADASTRO PARA DESAPROPRIAÇÃO

Neste volume é apresentada a caracterização das áreas e benfeitorias a serem desapropriadas em função do traçado, suas localizações, delimitações em relação ao bordos do traçado da estrada existente, o cadastro individual dos proprietários.

### 1.5 – SITUAÇÃO FINANCEIRA DO CONTRATO

Item	Descrição	Obs	Valor (R\$)
A	Valor do Contrato Pi (R\$)		1.988.750,17
B	Valor Total dos Aditivos (R\$)		-
C	Valor do Contrato Pi Atualizado (R\$)	A+B	1.988.750,17
D	Total Serviços Medidos (R\$)		-
E	Saldo Contratual Pi (R\$)	C-D	1.988.750,17
F	Total Reajustes Realizados (R\$)		-
G	Total Reajustes Pagos (R\$)		-
H	Saldo Contratual (Pi+R)	C+F-D-G	1.988.750,17

Medições Realizadas					
Nº	Descrição	% Valor Global	Período	Valor (R\$)	
				Pi	Reaj.
1	Medição de Projeto	15,25%			
2	Medição de Projeto	15,25%			
3	Medição de Projeto	15,25%			
4	Medição de Projeto	15,95%			
5	Medição de Projeto	4,16%			
6	Medição de Projeto	4,55%			
7	Medição de Projeto	4,93%			
8	Medição de Projeto	4,55%			
9	Medição de Projeto	4,55%			
10	Medição de Projeto	4,55%			
11	Medição de Projeto	5,16%			
12	Medição de Projeto	5,82%			



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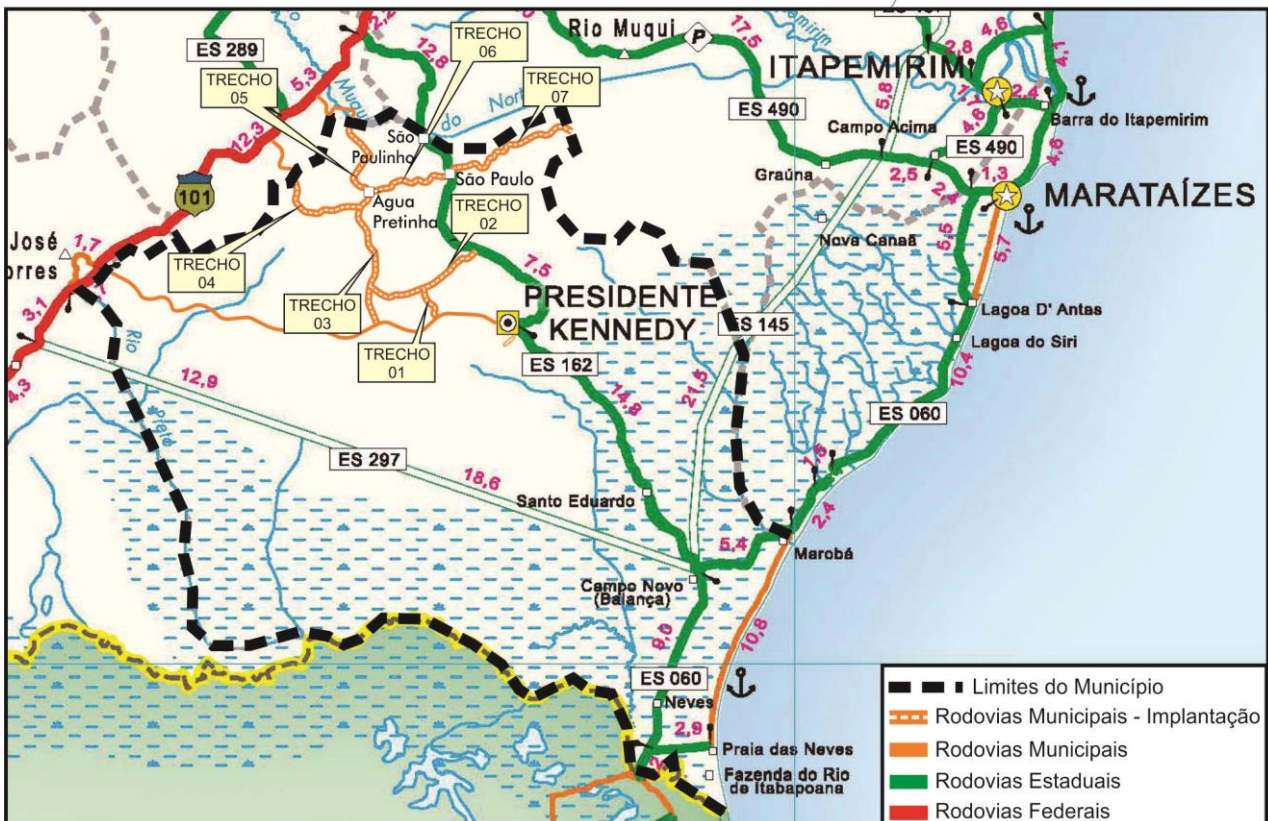
## 2.0 – MAPA DE SITUAÇÃO

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Trecho	Descrição	Extensão (km)
01	Estrada Leonel - Alegria	1,8
02	Estrada Cancela - Leonel - ES 162	6,3
03	Água Pretinha / Santa Lúcia - Cancela	7,4
04	Água Pretinha / Santa Lúcia - Divisa Atílio Vivácqua	4,7
05	Água Pretinha / Água Preta - Divisa Atílio Vivácqua	4,7
06	São Paulo - Água Pretinha	4,7
07	São Paulo - Cabral - Divisa com Itapemirim (Brejo Grande)	8,0









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## 3.0 – CÁLCULO DOS VOLUMES DE TERRAPLENAGEM

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### *3.1 – VOLUMES DE TERRAPLENAGEM – EIXO DA RODOVIA*

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TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO		
	Corte				Aterro	Excedente	Corte	Aterro	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1ª	2ª	3ª										
+				10,30									1.000.000
1 +				12,84			231,4	294		294			1.000.294
2 +				20,61			334,5	425		425			1.000.719
3 +				27,55			481,6	612		612			1.001.331
3 + 8,87				23,05			224,4	285		285			1.001.616
3 + 10,00				22,85			25,9	33		33			1.001.649
4 +				25,80			243,3	309		309			1.001.958
4 + 10,00				18,16			219,8	279		279			1.002.237
4 + 18,87				13,91			142,2	181		181			1.002.418
5 +				17,73			17,9	23		23			1.002.441
5 + 1,86	0,04			13,12			28,7	36		36			1.002.477
5 + 4,85				17,00			45,0	57		57			1.002.534
5 + 10,00				13,99			79,8	101		101			1.002.635
6 +				15,28			146,4	186		186			1.002.821
6 + 10,00				16,15			157,2	200		200			1.003.021
6 + 14,85				17,54			81,7	104		104			1.003.125
7 +				17,90			91,3	116		116			1.003.241
8 +				16,77			346,7	440	1	439			1.003.680
8 + 14,77	1,66			14,35			229,8	292	13	279			1.003.959
9 +				13,10			71,8	91	8	83			1.004.042
9 + 10,00	1,02			13,79			134,5	171	13	156			1.004.200
10 +				12,40			131,0	166	5	161			1.004.361
10 + 4,77	0,42			8,75			50,4	64	1	63			1.004.424

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO						
	Corte				Aterro	Aterro	Excedente	Corte	Aterro	Excedente	Corte	Aterro	Compensação Lateral	Bruckner			
	1ª	2ª	3ª												1ª	2ª	3ª
10 + 10,00		0,18		11,29			2,62		52,4	2	67	2	65	43	4.532	43	1.004.489
10 + 18,58		3,69		7,43			4,29	17	80,3		102	17	85	60	4.634	60	1.004.574
11 +		3,18		6,79			0,71	5	10,1		13	5	8	65	4.647	65	1.004.582
11 + 10,00		1,13		6,15			5,00	22	64,7		82	22	60	87	4.729	87	1.004.642
11 + 12,39		1,10		5,86			1,20	3	14,4		18	3	15	90	4.747	90	1.004.657
12 +		0,64		5,39			3,81	7	42,8		54	7	47	97	4.801	97	1.004.704
12 + 10,00		1,30		3,37			5,00	10	43,8		56	10	46	107	4.857	107	1.004.750
13 +				4,57			5,00	7	39,7		50	7	43	114	4.907	114	1.004.793
13 + 2,39		0,80		1,89			1,20	1	7,7		10	1	9	115	4.917	115	1.004.802
13 + 7,23		1,01		1,24			2,42	4	7,6		10	4	6	119	4.927	119	1.004.808
13 + 10,00				3,61			1,39	1	6,7		9	1	8	120	4.936	120	1.004.816
14 +		0,09		3,15			5,00		33,8		43		43	120	4.979	120	1.004.859
14 + 10,00				3,25			5,00		32,0		41		41	120	5.020	120	1.004.900
14 + 17,23		0,01		2,99			3,62		22,6		29		29	120	5.049	120	1.004.929
15 +				0,53			1,39	1	4,9		6	1	5	121	5.055	121	1.004.934
15 + 10,00				4,04			5,00	4	22,9		29	4	25	125	5.084	125	1.004.959
16 +				4,37			5,00		42,1		53		53	125	5.137	125	1.005.012
16 + 10,00				4,72			5,00		45,5		58		58	125	5.195	125	1.005.070
16 + 11,74				4,63			0,87		8,1		10		10	125	5.205	125	1.005.080
17 +		0,97		0,96			4,13	4	23,1		29	4	25	129	5.234	129	1.005.105
17 + 10,00				3,06			5,00	5	20,1		26	5	21	134	5.260	134	1.005.126
18 +				2,60			5,00		28,3		36		36	134	5.296	134	1.005.162
							3,12	4	9,5		12	4	8				

**TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela**  
**Eixo**

**PROJETO DE TERRAPLENAGEM**  
**CÁLCULO DE VOLUMES**

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO														
	Corte				Aterro	Excedente	Compensação Lateral	Corte	Aterro	Compensação Lateral	Bruckner														
	1º	2º	3º									1º	2º	3º											
18 + 6,24	1,40			0,45																					
18 + 10,00	1,94			0,32				1,4			2			138	5,308									138	1,005,170
19 +	1,64			1,80				10,6			13			144	5,310									144	1,005,166
19 + 10,00	6,42							9,0			11			162	5,323									162	1,005,161
19 + 16,24	8,47													202	5,334									202	1,005,132
20 +	18,79			1,32				2,5			3			248	5,334									248	1,005,086
21 +	46,45			0,58				19,0			24			299	5,337									299	1,005,038
22 +	65,89							5,8			7			991	5,361									991	1,004,410
23 +	46,25			0,05				0,5			1			2,074	5,368									2,074	1,003,294
23 + 0,51	41,27			0,27				0,1						3,195	5,369									3,195	1,002,174
23 + 10,00	29,77							1,3			2			3,217	5,369									3,217	1,002,152
24 +	22,82													3,554	5,371									3,554	1,001,817
24 + 10,00	13,83													3,816	5,371									3,816	1,001,555
24 + 10,51	13,57													3,997	5,371									3,997	1,001,374
25 +	10,82			0,75				3,6			5			4,004	5,371									4,004	1,001,367
25 + 0,12	15,53							0,0						4,120	5,376									4,120	1,001,256
25 + 9,73	8,40			3,41				16,4			21			4,122	5,376									4,122	1,001,254
25 + 10,00	11,88			1,42				0,7			1			4,237	5,397									4,237	1,001,160
26 +	9,02			4,22				28,2			36			4,240	5,398									4,240	1,001,158
26 + 10,00	0,05			8,06				61,4			78			4,345	5,434									4,345	1,001,089
26 + 19,73				17,35				123,6			157			4,390	5,512									4,390	1,001,122
27 +				17,53				4,7			6			4,390	5,669									4,390	1,001,279
27 + 5,88				17,65				103,4			131			4,390	5,675									4,390	1,001,265
														4,390	5,806									4,390	1,001,416

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO		
	Corte				Aterro	Excedente	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1º	2º	3º										
27 + 10,00				2,06	78,6	100	100	100	4,390	5,906	309	1.001.516	
28 +				5,00	246,1	312	312	312	4,390	6,218	309	1.001.828	
28 + 10,00				5,00	346,2	440	440	440	4,390	6,658	309	1.002.268	
29 +				5,00	427,4	543	543	543	4,390	7,201	309	1.002.811	
29 + 8,05				4,03	381,4	484	484	484	4,390	7,865	309	1.003.295	
29 + 10,00				0,98	98,0	125	125	125	4,390	7,810	309	1.003.420	
30 +				5,00	515,0	654	654	654	4,390	8,464	309	1.004.074	
30 + 10,00				5,00	549,7	698	698	698	4,390	9,162	309	1.004.772	
31 +				5,00	567,2	720	720	720	4,390	9,882	309	1.005.492	
31 + 10,00				5,00	573,3	728	728	728	4,390	10,610	309	1.006.220	
31 + 10,22				0,11	13,4	17	17	17	4,390	10,627	309	1.006.237	
32 +				4,89	615,0	781	781	781	4,390	11,408	309	1.007.018	
33 +				10,00	1.202,6	1.527	1.527	1.527	4,390	12,935	309	1.008.545	
33 + 14,62				7,31	752,8	956	956	956	4,390	13,891	309	1.009.501	
34 +				2,69	236,6	301	301	301	4,390	14,192	309	1.009.802	
34 + 10,00				5,00	374,8	476	476	476	4,390	14,668	309	1.010.278	
35 +				5,00	303,3	385	385	385	4,390	15,053	309	1.010.663	
35 + 10,00				5,00	278,3	353	353	353	4,390	15,406	309	1.011.016	
36 +				5,00	262,0	333	333	333	4,390	15,739	309	1.011.349	
36 + 1,08				0,54	24,3	31	31	31	4,390	15,770	309	1.011.380	
36 + 10,00				4,46	178,8	227	227	227	4,390	15,997	309	1.011.607	
37 +				5,00	196,6	250	250	250	4,390	16,247	309	1.011.857	
				5,00	190,4	242	242	242	4,390	16,247	309	1.011.857	
						3		3					



TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNICO			VOLUME HOMOGÊNICO ACUMULADO			
	Corte				Aterro	Aterro	Excedente	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1ª	2ª	3ª											
37 + 10,00	0,59		18,34	5,00	47		186,6	237	47	190	16,489	312	1.012,096	
38 +	8,87		18,98	3,77	111		145,0	184	111	73	16,726	359	1.012,286	
38 + 7,54	20,48		19,47	6,23	391		222,1	282	282	-109	16,910	470	1.012,359	
39 +	42,30		16,18	10,00	1.580		232,6	295	295	-1.285	17,192	752	1.012,250	
40 +	115,65		7,08	10,00	2.568		104,4	133	133	-2.435	17,487	1.047	1.010,965	
41 +	141,11		3,36	0,10	27		0,7	1	1	-26	17,620	1.180	1.008,530	
41 + 0,19	140,88		3,62	4,91	1.298		33,5	43	43	-1.255	17,621	1.181	1.008,504	
41 + 10,00	123,81		3,21	0,75	178		5,0	6	6	-172	17,664	1.224	1.007,249	
41 + 11,49	115,42		3,56	4,26	813		28,7	36	36	-777	17,670	1.230	1.007,077	
42 +	75,65		3,19	1,40	191		5,6	7	7	-184	17,706	1.266	1.006,300	
42 + 2,79	61,05		0,79	8,61	546		157,0	199	199	-347	17,713	1.273	1.006,116	
43 +	2,42		17,46	10,00	41		551,1	700	41	659	17,912	1.472	1.005,769	
44 +	1,71		37,65	10,00	135		544,4	691	135	556	18,612	1.513	1.006,428	
45 +	11,79		16,79	10,00	1.173		167,9	213	213	-960	19,303	1.648	1.006,984	
46 +	105,55			0,18	37					-37	19,516	1.861	1.006,024	
46 + 0,35	106,35										19,516	1.861	1.005,967	
<b>INTERSEÇÃO COM TRECHO 4 - INTERVALO ENTRE AS ESTACAS 46+0,352 A 53+12,19</b>														
53 + 12,19	50,50		27,48	3,91	401		245,7	312	312	-89	19,516	1.861	1.005,967	
54 +	52,25		35,45	5,00	510		397,1	504	504	-6	19,828	2.173	1.005,898	
54 + 10,00	49,71		43,97	5,00	373		496,6	631	373	258	20,332	2.677	1.005,892	
55 +	24,96		55,34	1,10	53		121,1	154	53	101	20,963	3.050	1.006,150	
55 + 2,19	23,12		55,21	3,91	149		486,0	617	149	468	21,117	3.103	1.006,251	
55 + 10,00	14,96		69,25	3,63	87		521,6	662	87	575	21,734	3.252	1.006,719	



TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO		
	Corte				Aterro	Aterro	Excedente	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral
	1ª	2ª	3ª										
63 + 10,00	197,80			5,00	42,6	54	54	54	-1,848	22,678	33,583	6,040	1.010,905
64 +	207,83			5,00	23,5	30	30	30	-1,998	24,706	33,613	6,070	1.008,907
64 + 10,00	212,34			5,00	102,3	130	130	130	-1,971	26,807	33,743	6,200	1.006,936
64 + 18,70	203,91			4,35	199,7	254	254	254	-1,557	28,618	33,997	6,454	1.005,379
65 +	207,90			0,65	35,2	45	45	45	-2,23	28,886	34,042	6,499	1.005,156
65 + 3,23	207,52			1,62	87,2	111	111	111	-5,60	29,557	34,153	6,610	1.004,596
65 + 7,77	204,26			2,27	120,2	153	153	153	-7,82	30,492	34,306	6,763	1.003,814
65 + 10,00	214,03			1,12	54,4	69	69	69	-3,97	30,958	34,375	6,832	1.003,417
66 +	208,19			5,00	196,0	249	249	249	-1,862	33,069	34,624	7,081	1.001,555
66 + 10,00	195,95			5,00	88,4	112	112	112	-1,909	35,090	34,736	7,193	999,646
67 +	168,55			5,00	72,0	91	91	91	-1,732	36,913	34,827	7,284	997,914
67 + 7,77	148,36			3,89	98,8	126	126	126	-1,105	38,144	34,953	7,410	996,809
68 +	109,76			6,12	204,7	260	260	260	-1,318	39,722	35,213	7,670	995,491
68 + 1,91	103,46			0,96	42,4	54	54	54	-1,50	39,926	35,267	7,724	995,341
68 + 10,00	88,28			4,05	260,9	331	331	331	-4,45	40,702	35,598	8,055	994,896
69 +	63,47			5,00	501,5	637	637	637	-1,22	41,461	36,235	8,692	994,774
69 + 10,00				5,00	683,2	868	868	868	5,51	41,778	37,103	9,009	995,325
70 +				5,00	759,0	964	964	964	9,64	41,778	38,067	9,009	996,289
70 + 10,00	61,36			5,00	702,4	892	892	892	5,85	42,085	38,959	9,316	996,874
71 +	93,55			5,00	603,3	766	766	766	-9	42,860	39,725	10,082	996,865
71 + 1,91	97,66			0,96	102,3	130	130	130	-5,3	43,043	39,855	10,212	996,812
71 + 10,00	105,08			4,05	402,0	511	511	511	-3,09	43,863	40,366	10,723	996,503
				5,00	483,5	614	614	614	-4,09				

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO				
	Corte				Aterro	Aterro	Excedente	Corte	Aterro	Excedente	Corte	Aterro	Compensação Lateral	Bruckner	
	1º	2º	3º												1º
72 +	99,51			49,99								44.886	40.980	11.337	996.094
72 +	96,24			50,64	898			461,9	587	-311		45.784	41.567	11.924	995.783
72 +	95,92			47,82	79			40,4	51	-28		45.863	41.618	11.975	995.755
73 +	60,02			48,56	780			481,9	612	-168		46.643	42.230	12.587	995.587
73 +	15,05			42,94	375			457,5	581	206		47.018	42.811	12.962	995.793
73 +	8,89			48,03	77			293,4	373	296		47.095	43.184	13.039	996.089
74 +	5,71			49,11	26			172,4	219	193		47.121	43.403	13.065	996.282
74 +	3,25			50,20	45			496,6	631	586		47.166	44.034	13.110	996.868
75 +	1,11			48,53	22			493,7	627	605		47.188	44.661	13.132	997.473
75 +				53,69	6			511,1	649	643		47.194	45.310	13.138	998.116
76 +				59,60				566,5	719	719		47.194	46.029	13.138	998.835
76 +				59,01				593,1	753	753		47.194	46.782	13.138	999.588
76 +				59,06				380,8	484	484		47.194	47.266	13.138	1.000.072
77 +				56,94				209,5	266	266		47.194	47.532	13.138	1.000.338
78 +				56,72				1.156,6	1.469	1.469		47.194	49.001	13.138	1.001.807
79 +				64,31				1.210,3	1.537	1.537		47.194	50.538	13.138	1.003.344
80 +				58,83				1.231,4	1.564	1.564		47.194	52.102	13.138	1.004.908
81 +				44,04				1.028,7	1.306	1.306		47.194	53.408	13.138	1.006.214
82 +	17,25			38,02	173			820,6	1.042	869		47.367	54.450	13.311	1.007.083
82 +	19,35			37,39	58			119,5	152	94		47.425	54.602	13.369	1.007.177
82 +	22,65			36,96	108			190,7	242	134		47.533	54.844	13.477	1.007.311
82 +	23,74			36,86	39			62,7	80	41		47.572	54.924	13.516	1.007.352
83 +	46,96			34,05	354			354,6	450	96		47.926	55.374	13.870	1.007.448

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte				Aterro	Aterro	Excedente	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1º	2º	3º											
83 + 10,00	77,19			5,00	621		288,2	366	-255	48.547	55.740	14.236	1.007.193	
84 +	125,45			5,00	1.013		232,8	296	-717	49.560	56.036	14.532	1.006.476	
84 + 10,00	162,64			5,00	1.440		205,0	260	-1.180	51.000	56.296	14.792	1.005.296	
84 + 13,17	178,96			1,59	541		54,0	69	-472	51.541	56.365	14.861	1.004.824	
85 +	207,85			3,42	1.321		95,1	121	-1.200	52.862	56.486	14.982	1.003.624	
85 + 0,38	209,05			0,19	79		4,6	6	-73	52.941	56.492	14.988	1.003.551	
85 + 7,60	213,96			3,61	1.527		98,4	125	-1.402	54.468	56.617	15.113	1.002.149	
85 + 10,00	210,12			1,20	509		37,4	47	-462	54.977	56.664	15.160	1.001.687	
86 +	193,32			5,00	2.017		182,5	232	-1.785	56.994	56.896	15.392	999.902	
86 + 10,00	174,35			5,00	1.838		214,1	272	-1.566	58.832	57.168	15.664	998.336	
87 +	175,47			5,00	1.749		150,9	192	-1.557	60.581	57.360	15.856	996.779	
87 + 10,00	193,71			5,00	1.846		70,1	89	-1.757	62.427	57.449	15.945	995.022	
87 + 17,60	173,33			3,80	1.395		54,4	69	-1.326	63.822	57.518	16.014	993.696	
88 +	152,82			1,20	391		20,0	25	-366	64.213	57.543	16.039	993.330	
89 +	19,04			10,00	1.719		524,1	666	-1.053	65.932	58.209	16.705	992.277	
89 + 16,13	24,78			8,07	353		976,5	1.240	887	66.285	59.449	17.058	993.164	
90 +	23,81			1,94	94		312,5	397	303	66.379	59.846	17.152	993.467	
90 + 10,00	39,74			5,00	318		913,0	1.160	842	66.697	61.006	17.470	994.309	
91 +	38,30			5,00	390		1.026,8	1.304	914	67.087	62.310	17.860	995.223	
91 + 10,00	18,27			5,00	283		1.131,7	1.437	1.154	67.370	63.747	18.143	996.377	
92 +	17,18			5,00	177		1.228,5	1.560	1.383	67.547	65.307	18.320	997.760	
92 + 6,13	20,76			3,07	116		767,0	974	856	67.663	66.281	18.436	998.618	
				1,94	83		485,8	617	83	534				

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo  
**PROJETO DE TERRAPLENAGEM**  
CÁLCULO DE VOLUMES

ESTACA	AREA			Semi - Distância	VOLUME GEOMETRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte				Aterro	Compensação Lateral	Excedente	Aterro	Compensação Lateral	Corte	Aterro	Compensação Lateral	Bruckner	
	1º	2º	3º											1º
92 + 10,00	21,89			127,20				781,3	127	865		66,898	18,519	999,152
92 + 16,22	18,88			124,03				460,0	66	518		67,873	18,646	1.000,017
93 +	16,20			119,37				737,6	94	843		67,939	18,712	1.000,535
93 + 6,31	13,50			114,42				419,3	54	478		68,033	18,806	1.001,378
93 + 10,00	15,51			112,83				956,4	199	1.016		68,087	18,860	1.001,856
94 +	24,21			78,45				580,0	296	441		68,286	19,059	1.002,872
94 + 10,00	34,98			37,55				336,1	310	117		68,582	19,355	1.003,313
95 +	26,94			29,67				301,3	163	220		68,892	19,665	1.003,430
95 + 10,00	5,67			30,59				252,5	18	303		69,055	19,828	1.003,650
95 + 16,31				49,43				194,0	246	246		69,073	19,846	1.003,953
96 +				55,70				844,9	1.073	1.073		69,073	19,846	1.004,199
97 +	0,02			26,79				470,3	597	383		69,073	19,846	1.005,272
98 +	21,35			18,24				343,4	436	-96		69,287	20,060	1.005,655
99 +	31,82			16,10				283,1	360	-400		69,819	20,496	1.005,559
100 +	44,13			12,21				193,1	245	-355		70,579	20,856	1.005,159
100 + 15,56	33,04			12,61				55,4	70	-80		71,179	21,101	1.004,804
101 +	34,56			12,36				138,5	176	-93		71,329	21,171	1.004,724
101 + 10,00	19,27			15,33				236,9	301	205		71,598	21,347	1.004,631
102 +				32,05				402,3	511	511		71,694	21,443	1.004,836
102 + 10,00				48,41				352,6	448	448		71,694	21,443	1.005,347
102 + 18,20	0,01			37,59				60,5	77	76		71,694	21,443	1.005,795
103 +	0,63			29,60				204,5	260	152		71,803	21,552	1.006,023
103 + 10,00	21,02			11,30										

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO		
	Corte		Aterro		1º	2º	3º	Aterro	Excedente	Compensação Lateral	Aterro	Compensação Lateral	Bruckner
	1º	2º	3º										
104 +	56,03		6,00	5,00	385		86,5	110	-275	110	77.936	21.662	1.005.748
104 + 10,00	100,53			5,00	783		30,0	38	-745	38	77.974	21.700	1.005.003
105 +	151,85			5,00	1.262				-1.262		77.974	21.700	1.003.741
105 + 0,85	155,46			0,43	131				-131		77.974	21.700	1.003.610
106 +	259,38			9,58	3.972				-3.972		77.974	21.700	999.638
107 +	310,00			10,00	5.694				-5.694		77.974	21.700	993.944
107 + 11,59	296,45			5,80	3.514				-3.514		77.974	21.700	990.430
108 +	283,26			4,21	2.438				-2.438		77.974	21.700	987.992
108 + 10,00	262,04			5,00	2.727				-2.727		77.974	21.700	985.265
108 + 19,09	247,48			4,55	2.316				-2.316		77.974	21.700	982.949
109 +	252,43			0,46	227				-227		77.974	21.700	982.722
109 + 10,00	269,75			5,00	2.611				-2.611		77.974	21.700	980.111
110 +	292,88			5,00	2.812				-2.812		77.974	21.700	977.299
110 + 6,59	285,10			3,30	1.904				-1.904		77.974	21.700	975.395
110 + 19,27	281,23			6,34	3.591				-3.591		77.974	21.700	971.804
111 +	285,42			0,37	207				-207		77.974	21.700	971.597
111 + 10,00	285,12			5,00	2.853				-2.853		77.974	21.700	968.744
112 +	259,28			5,00	2.722				-2.722		77.974	21.700	966.022
112 + 10,00	202,04		0,41	5,00	2.307		2,1	3	-2.304	3	77.974	21.700	963.718
112 + 19,64	91,71		2,16	4,82	1.416		12,4	16	-1.400	16	77.993	21.719	962.318
113 +	86,49		2,29	0,18	32		0,8	1	-31	1	77.994	21.720	962.287
113 + 10,00			6,47	5,00	432		43,8	56	-376	56	78.050	21.776	961.911
				5,00			64,8	82	82				

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNICO			VOLUME HOMOGÊNICO ACUMULADO					
	Corte				Aterro	Excedente	Corte	Aterro	Excedente	Corte	Aterro	Compensação Lateral	Bruckner			
	1º	2º	3º													
114 +			6,48													
114 + 10,00			46,57	5,00	265,3			337					337			
115 +			26,84	5,00	367,1			466					466			
115 + 0,01			30,54	0,01	0,3											
116 +			10,76	10,00	412,8			524	49	475						
116 + 0,60	4,89		14,34	0,30	7,5			10	3	7						
116 + 10,00	4,52		16,72	4,70	146,0			185	25	160						
117 +			19,60	5,00	181,6			231	4	227						
117 + 10,00			31,51	5,00	255,6			325		325						
117 + 12,13			34,37	1,07	70,2			89		89						
118 +			55,53	3,94	353,8			449		449						
118 + 10,00			56,19	5,00	558,6			709		709						
119 +			56,15	5,00	571,7			726		726						
119 + 3,65			56,97	1,83	213,7			271		271						
120 +			64,44	8,18	1.008,9			1.281		1.281						
120 + 16,46			60,67	8,23	1.029,7			1.308		1.308						
121 +			63,56	1,77	219,9			279		279						
121 + 10,00			58,75	5,00	611,6			777		777						
121 + 15,71			61,40	2,86	345,0			436		436						
122 +			60,27	2,15	261,0			331		331						
122 + 10,00			56,97	5,00	596,2			757		757						
122 + 14,97			55,20	2,49	283,7			360		360						
123 +			51,71	2,52	268,9			341		341						



TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO		
	Corte				Aterro	Excedente	Aterro	Compensação Lateral	Corte	Aterro	Compensação Lateral	Bruckner	
	1º	2º	3º										
124 +				10,00	898,1	1,141		1,141	116,220	89,465		21,857	973,245
125 +	10,66			10,00	652,4	829	107	722	116,327	90,294		21,964	973,967
125 + 1,97	11,54			0,99	52,8	67	22	45	116,349	90,361		21,986	974,012
125 + 10,00	15,74			4,02	198,9	253	110	143	116,459	90,614		22,096	974,155
126 +	21,13			5,00	218,1	277	184	93	116,643	90,891		22,280	974,248
126 + 4,45	24,83			2,23	85,4	108	102	6	116,745	90,999		22,382	974,254
126 + 10,00	25,74			2,78	95,4	121	140	-19	116,885	91,120		22,503	974,235
127 +	15,36			5,00	166,5	211	206	5	117,091	91,331		22,709	974,240
127 + 6,93	1,82			3,47	122,1	155	60	95	117,151	91,486		22,769	974,335
128 +	0,32			6,54	306,6	389	14	375	117,165	91,875		22,783	974,710
129 +	0,18			10,00	726,9	923	5	918	117,170	92,798		22,788	975,628
129 + 16,10	1,48			8,05	591,4	751	13	738	117,183	93,549		22,801	976,366
130 +	0,04			1,95	121,4	154	3	151	117,186	93,703		22,804	976,517
130 + 10,00				5,00	335,3	426		426	117,186	94,129		22,804	976,943
131 +	16,73			5,00	318,7	405	84	321	117,270	94,534		22,888	977,264
131 + 6,10	29,72			3,05	170,2	216	142	74	117,412	94,750		23,030	977,338
131 + 10,00	37,74			1,95	95,3	121	121	-11	117,544	94,871		23,151	977,327
131 + 12,05	42,16			1,03	43,7	55	55	-27	117,626	94,926		23,206	977,300
131 + 18,01	46,54			2,98	106,7	135	135	-129	117,890	95,061		23,341	977,171
132 +	46,40			0,99	30,1	38	38	-54	117,962	95,099		23,379	977,117
132 + 10,00	53,05			5,00	96,9	126	126	-371	118,479	95,225		23,505	976,746
133 +	53,67			5,00	47,3	60	60	-474	119,013	95,285		23,565	976,272
				4,01	29,7	38	38	-417					

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte				Aterro	Aterro	Excedente	Corte	Aterro	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1ª	2ª	3ª											
133 + 8,01	60,02		3,48	4,83	53,0		5,20	67	-453	119,468	95,323	23,603	975,855	
133 + 17,66	47,84		7,51	1,17	15,3		109	19	-90	119,988	95,390	23,670	975,402	
134 +	45,69		5,55	5,00	104,2		333	132	-201	120,097	95,409	23,689	975,312	
134 + 10,00	20,84		15,29	5,00	188,9		104	104	136	120,430	95,541	23,821	975,111	
135 +			22,49	3,83	203,9			259	259	120,534	95,781	23,925	975,247	
135 + 7,66			30,75	1,17	75,5			96	96	120,534	96,040	23,925	975,506	
135 + 10,00			33,81	5,00	325,9			414	414	120,534	96,136	23,925	975,602	
136 +			31,36	3,76	232,6			295	295	120,534	96,550	23,925	976,016	
136 + 7,52			30,49	1,24	70,8			90	90	120,534	96,845	23,925	976,311	
136 + 10,00			26,61	5,00	237,2			301	301	120,534	96,935	23,925	976,401	
137 +			20,83	3,70	123,9			157	134	120,534	97,236	23,925	976,702	
137 + 7,39	6,31		12,71	1,31	26,2			33	10	120,557	97,393	23,948	976,836	
137 + 10,00	11,28		7,36	5,00	47,6			60	-165	120,580	97,426	23,971	976,846	
138 +	33,81		2,15	5,00	11,4			14	-525	120,805	97,486	24,031	976,681	
138 + 10,00	73,97		0,12	3,70	0,4			1	-626	121,344	97,500	24,045	976,156	
138 + 17,39	95,74			1,31					-259	121,971	97,501	24,046	975,530	
139 +	102,70			4,76					-1,057	122,230	97,501	24,046	975,271	
139 + 9,51	119,58			0,25					-59	123,287	97,501	24,046	974,214	
139 + 10,00	120,37			5,00					-1,297	123,346	97,501	24,046	974,155	
140 +	139,06			4,57					-1,200	124,643	97,501	24,046	972,858	
140 + 9,14	123,51			0,43					-105	125,843	97,501	24,046	971,658	
140 + 10,00	121,79			5,00					-1,128	125,948	97,501	24,046	971,553	
141 +	103,95									127,076	97,501	24,046	970,425	

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO					
	Corte				Aterro	Aterro	Excedente	Corte	Aterro	Excedente	Corte	Aterro	Compensação Lateral	Bruckner		
	1º	2º	3º												1º	2º
141 + 8,78	79,50			4,39	805					-805			127.881	97.501	24.046	969.620
142 +	41,02			5,61	676					-676						
143 +	17,09			10,00	581			21,7	28	-563			128.557	97.501	24.046	968.944
144 +	14,22			10,00	313			55,4	70	-243			129.138	97.529	24.074	968.391
145 +	49,40			10,00	636			33,7	43	-593			129.451	97.599	24.144	968.148
145 + 6,94	65,27			3,47	398					-398			130.087	97.642	24.187	967.555
145 + 10,00	65,22			1,53	200					-200			130.485	97.642	24.187	967.157
146 +	81,15			5,00	732					-732			130.685	97.642	24.187	966.957
146 + 10,00	59,32			5,00	702			0,3		-702			131.417	97.642	24.187	966.225
146 + 13,35	52,12			1,68	187			0,4		-187			132.119	97.642	24.187	965.523
147 +	40,25			3,33	307			10,0	13	-294			132.306	97.642	24.187	965.336
147 + 10,00	17,59			5,00	289			75,9	96	-193			132.613	97.655	24.200	965.042
147 + 19,76	5,93			4,88	115			148,0	188	73			132.902	97.751	24.296	964.849
148 +	5,47			0,12	1			4,7	6	5			133.017	97.839	24.411	964.922
148 + 10,26	25,79			5,13	28			242,4	308	280			133.018	97.945	24.412	964.927
149 +	37,93			4,87				310,3	394	394			133.046	98.253	24.440	965.207
149 + 10,00	44,40			5,00				411,7	523	523			133.046	98.647	24.440	965.601
150 +	51,97			5,00				481,9	612	612			133.046	99.170	24.440	966.124
150 + 10,00	57,09			5,00				545,3	693	693			133.046	99.782	24.440	966.736
151 +	60,19			5,00				586,4	745	745			133.046	100.475	24.440	967.429
151 + 10,00	62,10			5,00				611,5	777	777			133.046	101.220	24.440	968.174
151 + 10,28	58,41			0,13				15,7	20	20			133.046	101.997	24.440	968.951
				4,87				597,2	758	758			133.046	102.017	24.440	968.971

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO					
	Corte				Aterro	Excedente	Aterro	Compensação Lateral	Corte	Compensação Lateral	Aterro	Compensação Lateral	Bruckner			
	1º	2º	3º											1º	2º	3º
152 +				64,21				644,2				818	133,046	102,775	24,440	969,729
152 + 10,00				64,62				547,2				695	133,046	103,593	24,440	970,547
152 + 18,99				57,12				57,6				73	133,046	104,288	24,440	971,242
153 +				56,86				554,2				704	133,046	104,361	24,440	971,315
153 + 10,00				53,98				551,2				700	133,046	105,065	24,440	972,019
154 +				56,25									133,046	105,765	24,440	972,719
154 + 7,72				54,76				428,5				544	133,046	106,309	24,440	973,263
154 + 10,00				54,49				124,5				158	133,046	106,467	24,440	973,421
155 +				54,20				543,5				690	133,046	107,157	24,440	974,111
155 + 10,00				46,59				504,0				640	133,046	107,797	24,440	974,751
156 +				43,48				450,4				572	133,046	108,369	24,440	975,323
156 + 10,00				37,51				405,0				514	133,046	108,883	24,440	975,837
157 +				36,99				382,5				481	133,051	109,369	24,445	976,318
157 + 7,72				37,17				294,0				361	133,063	109,742	24,457	976,679
158 +				33,60				434,5				505	133,110	110,294	24,504	977,184
159 +				38,71				723,1				843	133,185	111,212	24,579	978,027
159 + 7,34				39,91				288,5				359	133,192	111,578	24,586	978,386
159 + 10,00				44,99				112,9				143	133,192	111,721	24,586	978,529
160 +				52,78				486,9				621	133,192	112,342	24,586	979,150
160 + 10,00				56,59				546,9				694	133,192	113,036	24,586	979,844
161 +				62,97				597,8				759	133,192	113,795	24,586	980,603
161 + 10,00				73,18				680,8				865	133,192	114,660	24,586	981,468
162 +				64,64				689,1				875	133,192	115,535	24,586	982,343

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO		
	Corte				Aterro	Aterro	Excedente	Corte	Compensação		Aterro	Compensação	Bruckner
	1ª	2ª	3ª						Lateral	Lateral			
162 + 10,00				5,00	639,5	812	812	133,192	116,347	24,586	983,155		
163 +				5,00	629,8	800	800	133,192	117,147	24,586	983,955		
163 + 7,34				3,67	441,0	560	560	133,192	117,707	24,586	984,515		
163 + 10,00				1,33	152,5	194	194	133,192	117,901	24,586	984,709		
164 +				5,00	562,1	714	714	133,192	118,615	24,586	985,423		
164 + 3,32				1,66	187,7	238	238	133,192	118,853	24,586	985,661		
164 + 10,00				3,34	380,0	483	483	133,192	119,336	24,586	986,144		
164 + 19,29				4,65	487,5	619	619	133,192	119,955	24,586	986,763		
165 +				0,36	36,0	46	46	133,192	120,001	24,586	986,809		
165 + 10,00				5,00	496,8	633	633	133,192	120,634	24,586	987,442		
166 +				5,00	428,4	544	544	133,192	121,178	24,586	987,986		
166 + 10,00				5,00	359,3	456	456	133,192	121,634	24,586	988,442		
167 +				5,00	307,0	390	390	133,192	122,024	24,586	988,832		
167 + 10,00				5,00	253,7	322	322	133,192	122,346	24,586	989,154		
168 +				5,00	172,5	219	219	133,192	122,565	24,586	989,373		
168 + 10,00	1,49			5,00	91,8	117	110	133,199	122,682	24,593	989,463		
168 + 19,29	6,87			4,65	31,5	40	39	133,238	122,722	24,632	989,484		
169 +				0,36	0,0		-5	133,243	122,722	24,632	989,479		
170 +				10,00	1,0	1	1	133,704	122,723	24,633	989,019		
171 +				10,00	1,182		-1,182	134,886	122,723	24,633	987,837		
171 + 10,55	90,11			5,28	897		-897	135,783	122,723	24,633	986,940		
172 +	102,01			4,73	908		-908	136,691	122,723	24,633	986,032		
				5,00	1,056		-1,056						

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte		Aterro		1º	2º	3º	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1º	2º	3º											
172 + 10,00	109,18			5,00								24.633	984.976	
173 +	122,11			5,00					-1.156			24.633	983.820	
173 + 10,00	134,20			0,28					-1.282			24.633	982.538	
173 + 10,55	134,87			4,73					-74			24.633	982.464	
174 +	137,73			5,00					-1.288			24.633	981.176	
174 + 10,00	136,93			3,14					-1.373			24.633	979.803	
174 + 16,27	119,57			1,87					804			24.633	978.999	
175 +	102,18			5,00					414			24.633	978.585	
175 + 10,00	69,18			5,00					857			24.633	977.728	
176 +	37,05			0,99					531			24.633	977.197	
176 + 1,98	26,91			4,01					63			24.633	977.134	
176 + 10,00	21,36			5,00					194			24.633	976.940	
177 +	15,60			5,00					185			24.633	976.755	
177 + 10,00	10,20			5,00					129			24.633	976.626	
178 +	10,94			0,09					106			24.634	976.521	
178 + 1,98	6,87			0,15					18			24.634	976.503	
179 +	3,37			0,22					92			24.638	976.415	
179 + 2,11	3,09			0,21					7			24.639	976.409	
179 + 10,00	5,42			0,14					34			24.641	976.377	
180 +	1,06			0,85					32			24.647	976.351	
180 + 10,00	0,82			1,75					8			24.655	976.360	
181 +	2,06			2,66					13			24.668	976.375	
181 + 2,11	0,40			5,32					3			24.671	976.383	

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO		
	Corte				Aterro	Excedente	Aterro	Compensação Lateral	Corte	Aterro	Compensação Lateral	Bruckner	
	1ª	2ª	3ª										
181 + 10,00		0,06		4,30	38,0	2	48	2	46	146,412	122,841	24,673	976,429
182 +		1,40		2,06	31,8	7	40	7	33	146,419	122,881	24,680	976,462
182 + 10,00				4,61	33,4	7	42	7	35	146,426	122,923	24,687	976,497
183 +		2,30		3,69	41,5	12	53	12	41	146,438	122,976	24,699	976,538
183 + 10,00		0,56		3,06	33,8	14	43	14	29	146,452	123,019	24,713	976,567
183 + 18,71		1,81		1,00	17,7	10	22	10	12	146,462	123,041	24,723	976,579
184 +		1,81		1,04	1,3	2	2	2		146,464	123,043	24,725	976,579
184 + 10,00		0,62		6,30	36,7	12	47	12	35	146,476	123,090	24,737	976,614
185 +				12,21	92,6	3	118	3	115	146,479	123,208	24,740	976,729
185 + 10,00				16,50	143,6		182		182	146,479	123,390	24,740	976,911
186 +				19,87	181,9		231		231	146,479	123,621	24,740	977,142
186 + 10,00				22,74	213,1		271		271	146,479	123,892	24,740	977,413
186 + 15,31				23,33	122,3		155		155	146,479	124,047	24,740	977,568
187 +				22,39	107,2		136		136	146,479	124,183	24,740	977,704
187 + 10,00				29,94	261,7		332		332	146,479	124,515	24,740	978,036
188 +				33,96	319,5		406		406	146,479	124,921	24,740	978,442
188 + 10,00				38,80	363,8		462		462	146,479	125,383	24,740	978,904
188 + 15,31				42,10	214,8		273		273	146,479	125,656	24,740	979,177
189 +				44,92	204,1		259		259	146,479	125,915	24,740	979,436
190 +				49,99	949,1		1.205		1.205	146,479	127,120	24,740	980,641
191 +				63,97	1.139,6		1.447		1.447	146,479	128,567	24,740	982,088
191 + 6,73				67,87	443,6		563		563	146,479	129,130	24,740	982,651
					226,2		287		287				

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO				
	Corte				Aterro	Aterro	Excedente	Corte	Aterro	Excedente	Compensação Lateral	Aterro	Compensação Lateral	Bruckner	
	1º	2º	3º												1º
191 + 10,00				70,50					699,8				129,417	24,740	982,938
192 +				89,46					665,3				130,306	24,740	983,827
192 + 10,00				63,60					613,1				131,151	24,740	984,672
193 +				59,01					558,9				131,930	24,740	985,451
193 + 10,00				52,76					545,5				132,640	24,740	986,161
194 +				56,34					572,1				133,333	24,740	986,854
194 + 10,00				58,08					561,7				134,060	24,740	987,581
195 +				54,25					539,1				134,773	24,740	988,294
195 + 10,00				53,57					488,2				135,458	24,740	988,979
196 +				44,07					277,7				136,078	24,740	989,599
196 + 6,73				38,45					129,1				136,431	24,740	989,952
196 + 10,00				40,52					362,3				136,595	24,740	990,116
197 +				31,93					75,0				137,055	24,741	990,575
197 + 2,25	0,23			34,74					259,9				137,150	24,741	990,670
197 + 10,00	0,67			32,34					226,6				137,480	24,744	990,997
197 + 17,76	1,44			26,06					64,4				137,768	24,752	991,277
198 +				31,47					328,3				137,850	24,755	991,356
198 + 10,00	0,19			34,18					360,8				138,267	24,761	991,767
199 +				37,97					400,0				138,725	24,762	992,224
199 + 10,00				42,02					462,1				139,233	24,762	992,732
200 +				50,40					520,0				139,820	24,762	993,319
200 + 10,00				53,60					569,5				140,480	24,762	993,979
201 +				60,29					599,0				141,203	24,762	994,702



TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
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PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO						
	Corte				Aterro	Compensação Lateral	Excedente	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner			
	1º	2º	3º														
201 + 10,00				59,51			578,2				734			146.501	141.964	24.762	996.463
202 +				56,12			554,5				704			146.501	142.698	24.762	996.197
202 + 10,00				54,77			433,2				550			146.501	143.402	24.762	996.901
202 + 17,76				56,89			122,8				156			146.501	143.952	24.762	997.451
203 +				52,76			1.046,1				1.329			146.501	144.108	24.762	997.607
204 +				51,85			1.006,4				1.278			146.501	145.437	24.762	998.936
205 +				48,79			949,8				1.206			146.501	146.715	24.762	1.000.214
206 +				46,19			818,3				1.039			146.501	147.921	24.762	1.001.420
207 +				35,64			64,8				82			146.501	148.960	24.762	1.002.459
207 + 1,76				38,01			293,3				373			146.501	149.042	24.762	1.002.541
207 + 10,00				33,19			296,6				377			146.501	149.415	24.762	1.002.914
208 +				26,13			219,0				278			146.501	149.792	24.762	1.003.291
208 + 10,00				17,66			168,6				214			146.534	150.070	24.795	1.003.536
209 +				16,05			28,3				36			146.640	150.284	24.901	1.003.644
209 + 1,76				16,08			131,3				167			146.667	150.320	24.928	1.003.653
209 + 10,00				15,80			171,8				218			146.828	150.487	25.089	1.003.659
210 +				18,56			183,2				233			147.076	150.705	25.307	1.003.629
210 + 10,00				18,08			186,2				236			147.381	150.838	25.540	1.003.557
211 +				19,16			187,8				239			147.750	151.174	25.776	1.003.424
211 + 10,00				18,40			172,3				219			148.214	151.413	26.015	1.003.199
212 +				16,06			150,7				191			148.810	151.632	26.234	1.002.822
212 + 10,00				14,07			69,7				89			149.530	151.823	26.425	1.002.293
212 + 14,97				13,99			68,7				87			149.925	151.912	26.514	1.001.987
213 +				85,56			13,34				418			150.343	151.999	26.601	1.001.656

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte				Aterro	Aterro	Excedente	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1º	2º	3º											
213 + 10,00	84,10			13,20	132,7	169	169	169	-679	151.191	152.168	26.770	1.000.977	
214 +	79,21			13,25	132,3	168	168	168	-649	152.008	152.336	26.938	1.000.328	
214 + 10,00	60,88			13,47	133,6	170	170	170	-530	152.708	152.506	27.108	999.798	
215 +	47,95			13,71	135,9	173	173	173	-371	153.252	152.679	27.281	999.427	
215 + 10,00	32,06			16,70	152,1	193	193	193	-207	153.652	152.872	27.474	999.220	
216 +	21,81			17,75	172,3	219	219	219	-50	153.921	153.091	27.693	999.170	
216 + 8,19	16,22			18,66	149,1	189	156	156	33	154.077	153.280	27.849	999.203	
216 + 10,00	13,97			22,29	37,1	47	27	27	20	154.104	153.327	27.876	999.223	
217 +	8,98			23,64	229,7	292	115	115	177	154.219	153.619	27.991	999.400	
217 + 10,00	8,06			31,24	274,4	348	85	85	263	154.304	153.967	28.076	999.663	
218 +	7,41			34,60	329,2	418	77	77	341	154.381	154.385	28.153	1.000.004	
218 + 8,19	8,75			32,05	272,9	347	66	66	281	154.447	154.732	28.219	1.000.285	
219 +	11,43			23,03	325,2	413	119	119	294	154.566	155.145	28.338	1.000.579	
219 + 1,23	13,05			17,78	25,1	32	15	15	17	154.581	155.177	28.353	1.000.596	
219 + 8,02	17,72			11,49	99,4	126	104	104	22	154.685	155.303	28.457	1.000.618	
219 + 10,00	19,05			11,06	22,3	28	28	28	-8	154.721	155.331	28.485	1.000.610	
219 + 14,81	19,38			9,40	49,2	62	62	62	-30	154.813	155.393	28.547	1.000.580	
220 +	19,98			9,70	49,6	63	63	63	-39	154.915	155.456	28.610	1.000.541	
221 +	30,22			2,53	122,3	155	155	155	-347	155.417	155.611	28.765	1.000.194	
222 +	51,88				25,3	32	32	32	-789	156.238	155.643	28.797	999.405	
222 + 2,27	58,12								-125	156.363	155.643	28.797	999.280	
222 + 10,00	67,72								-486	156.849	155.643	28.797	998.794	
223 +	76,13								-719	157.568	155.643	28.797	998.075	
									-796					

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO				
	Corte		Aterro		1º	2º	3º	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner	
	1º	2º	3º												
223 + 10,00	83,00			5,00	785							156.364	155.643	28.797	997.279
224 +	73,97			1,75	254							159.149	155.643	28.797	996.494
224 + 3,50	70,98			3,25	460							159.403	155.643	28.797	996.240
224 + 10,00	70,63			5,00	596							159.863	155.643	28.797	995.760
225 +	48,49			5,00	444							160.459	155.643	28.797	995.184
225 + 10,00	40,33			5,00	333							160.903	155.643	28.797	994.740
226 +	26,21		1,83	2,37	123		9,2	12	-321			161.236	155.655	28.809	994.419
226 + 4,73	25,98		4,05	4,08	172		13,9	18	-105			161.359	155.673	28.827	994.314
226 + 12,89	16,28		8,40	3,56	117		50,8	65	-107			161.531	155.738	28.892	994.207
227 +	16,62		11,43	5,00	141		70,5	90	-27			161.648	155.828	28.982	994.180
227 + 10,00	11,65		28,72	5,00	148		200,8	255	141			161.789	156.083	29.123	994.294
228 +	18,01		10,58	5,00	199		196,5	250	148	102		161.937	156.333	29.271	994.396
228 + 10,00	21,70		4,46	5,00	246		75,2	96	96	-103		162.136	156.429	29.367	994.293
229 +	27,43		0,11	5,00	288		22,9	29	29	-217		162.382	156.458	29.396	994.076
229 + 10,00	30,22			1,45	90		0,6	1	1	-287		162.670	156.459	29.397	993.789
229 + 12,89	31,94			3,56	259					-90		162.760	156.459	29.397	993.699
230 +	40,88			5,00	461					-259		163.019	156.459	29.397	993.440
230 + 10,00	51,29		2,02	5,00	552		10,1	13	13	-448		163.480	156.472	29.410	992.992
231 +	59,17		3,52	5,00	613		27,7	35	35	-517		164.032	156.507	29.445	992.475
231 + 10,00	63,50		3,41	5,00	629		34,7	44	44	-569		164.645	156.551	29.489	991.906
232 +	62,39		5,67	5,00	418		45,4	58	58	-571		165.274	156.609	29.547	991.335
232 + 7,08	55,79		8,46	1,46	163		50,0	64	64	-354		165.692	156.673	29.611	990.981
232 + 10,00	55,52		7,47	5,00	492		23,3	30	30	-133		165.855	156.703	29.641	990.848
233 +	42,80		10,86				91,7	116	116	-376		166.347	156.819	29.757	990.472

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte				Aterro	Aterro	Excedente	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1º	2º	3º											
233 + 10,00	40,49			12,00	416			114,3	145	-271	166,763	156,964	29,902	990,201
234 +	34,86			15,94	376			139,7	177	-199	167,139	157,141	30,079	990,002
234 + 10,00	43,92			12,69	393			143,2	182	-211	167,532	157,323	30,261	989,791
235 +	45,81			11,32	449			120,1	152	-297	167,981	157,475	30,413	989,494
235 + 1,27	46,66			10,64	59			13,9	18	-41	168,040	157,493	30,431	989,453
235 + 10,00	52,76			6,51	434			74,9	95	-339	168,474	157,588	30,526	989,114
236 +	62,33				575			32,6	41	-534	169,049	157,629	30,567	988,580
236 + 10,00	56,16				592					-592	169,641	157,629	30,567	987,988
237 +	48,33			3,14	522			15,7	20	-502	170,163	157,649	30,587	987,486
237 + 10,00	35,26			6,37	418			47,6	60	-358	170,581	157,709	30,647	987,128
238 +	20,83			10,11	280			82,4	105	-175	170,861	157,814	30,752	986,953
238 + 1,27	19,16			10,34	25			13,0	16	-9	170,886	157,830	30,768	986,944
239 +	4,27			42,56	219			495,4	629	410	171,105	158,459	30,987	987,354
239 + 0,56	4,17			42,92	2			23,9	30	28	171,107	158,489	30,989	987,362
239 + 10,00	2,64			54,96	32			462,0	587	32	171,139	159,076	31,021	987,937
240 +	2,42			53,59	25			542,8	689	25	171,164	159,765	31,046	988,601
240 + 10,00	2,66			38,18	25			458,9	583	25	171,189	160,348	31,071	989,159
241 +	4,73			28,02	37			331,0	420	37	171,226	160,768	31,108	989,542
241 + 0,56	4,75			31,39	3			16,6	21	18	171,229	160,789	31,111	989,560
241 + 10,00	7,83			24,62	128			221,9	282	128	171,288	161,125	31,170	989,837
242 +	17,83			19,75	20			20,5	26	6	171,416	161,407	31,298	989,991
242 + 1,06	19,45			18,99	230			145,4	185	-45	171,436	161,433	31,318	989,997
242 + 10,00	31,90			13,54	403			95,2	121	-282	171,666	161,618	31,503	989,952

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
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PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO				
	Corte				Aterro	Aterro	Excedente	Aterro	Corte	Excedente	Aterro	Corte	Compensação Lateral	Bruckner	
	1º	2º	3º												1º
243 +	48,77			5,50				9,9	13	13	-62	172,069	161,739	31,624	989,670
243 + 1,56	47,82			7,21				48,8	62	62	-371	172,144	161,752	31,637	989,608
243 + 10,00	54,80			4,35				32,9	42	42	-538	172,577	161,814	31,699	989,237
244 +	61,26			2,22				15,3	19	19	-653	173,157	161,856	31,741	988,699
244 + 10,00	73,06			0,83				7,6	10	10	-711	173,829	161,875	31,760	988,046
245 +	71,15			0,69				1,9	2	2	-106	174,550	161,885	31,770	987,335
245 + 1,56	67,65			1,77				51,2	65	65	-1,127	174,658	161,887	31,772	987,229
246 +	61,68			3,78				64,2	82	82	-850	175,850	161,952	31,837	986,102
246 + 15,63	57,57			4,44				19,4	25	25	-230	176,782	162,034	31,919	985,252
247 +	58,94			4,46				40,8	52	52	-540	177,037	162,059	31,944	985,022
247 + 10,00	59,52			3,70				42,2	54	54	-483	177,629	162,111	31,996	984,482
248 +	47,81			4,74				26,7	34	34	-209	178,166	162,165	32,050	983,999
248 + 5,63	38,52			4,73				16,4	21	21	-144	178,409	162,199	32,084	983,790
248 + 10,00	36,90			2,76				21,9	28	28	-388	178,574	162,220	32,105	983,646
249 +	46,36			1,62				5,5	7	7	-174	178,990	162,248	32,133	983,258
249 + 3,65	52,73			1,39				10,0	13	13	-336	179,171	162,255	32,140	983,084
249 + 10,00	57,31			1,76				9,7	12	12	-633	179,520	162,268	32,153	982,748
250 +	71,71			0,18				0,9	1	1	-115	180,165	162,280	32,165	982,115
250 + 1,66	68,23			0,94				7,3	9	9	-551	180,281	162,281	32,166	982,000
250 + 10,00	66,15			0,80				6,4	8	8	-621	180,841	162,290	32,175	981,449
251 +	59,73			0,47				2,4	3	3	-594	181,470	162,298	32,183	980,828
251 + 10,00	59,76										-99	182,067	162,301	32,186	980,234
251 + 1,166	58,93										-480	182,166	162,301	32,186	980,135
252 +	56,23											182,646	162,301	32,186	979,655

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO					
	Corte		Aterro		Aterro	Compensação Lateral	Excedente	Aterro	Compensação Lateral	Corte	Aterro	Compensação Lateral	Bruckner			
	1º	2º	3º											1º	2º	3º
252 + 6,97	65,31			3,49	4,24						-4,24	183,070	162,301	32,186	979,231	
252 + 10,00	68,23			1,52	202						-202	183,272	162,301	32,186	979,029	
253 +	90,56			5,00	794						-794	184,066	162,301	32,186	978,235	
253 + 10,00	129,62			5,00	1,101						-1,101	185,167	162,301	32,186	977,134	
253 + 16,97	154,01			3,49	988						-988	186,155	162,301	32,186	976,146	
253 + 19,09	165,50			1,06	339						-339	186,494	162,301	32,186	975,807	
254 +	164,61			0,46	150						-150	186,644	162,301	32,186	975,657	
254 + 1,22	173,47			0,61	206						-206	186,850	162,301	32,186	975,451	
254 + 10,00	184,58			4,39	1,572						-1,572	188,422	162,301	32,186	973,879	
255 +	182,67			5,00	1,836						-1,836	190,258	162,301	32,186	972,043	
255 + 10,00	170,00			5,00	1,763						-1,763	192,021	162,301	32,186	970,280	
255 + 11,22	167,15			0,61	206						-206	192,227	162,301	32,186	970,074	
255 + 14,23	162,35			1,51	496						-496	192,723	162,301	32,186	969,578	
256 +	166,40			2,89	948						-948	193,671	162,301	32,186	968,630	
256 + 10,00	128,89			5,00	1,476						-1,476	195,147	162,301	32,186	967,154	
257 +	59,15			5,00	940						-940	196,087	162,301	32,186	966,214	
257 + 5,37	45,54			2,69	281						-281	196,368	162,301	32,186	965,933	
257 + 10,00	41,32			2,32	201						-201	196,569	162,301	32,186	965,732	
258 +	49,25			5,00	453						-453	197,022	162,301	32,186	965,279	
258 + 10,00	44,06			5,00	467						-467	197,489	162,301	32,186	964,812	
258 + 16,51	54,72			3,26	322						-322	197,811	162,301	32,186	964,490	
259 +	61,23			1,75	202						-202	198,013	162,301	32,186	964,288	
260 +	110,13			10,00	1,714						-1,714	199,727	162,301	32,186	962,574	
				10,00	2,154						-2,154					

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
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PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte				Aterro	Aterro	Excedente	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1ª	2ª	3ª											
261 +	105,26			10,00							201,881	162,301	32,186	960,420
262 +	113,09			10,00	2,184					-2,184		162,301	32,186	956,236
263 +	145,39			10,00	2,585					-2,585		162,301	32,186	955,651
264 +	130,89			10,00	2,763					-2,763		162,301	32,186	952,888
264 + 7,09	116,28			3,55	876		2,0	3	3	-873		162,304	32,189	952,015
264 + 10,00	111,79			1,46	332		2,0	3	3	-329		162,307	32,192	951,686
265 +	69,18			5,00	905		23,6	30	30	-875		162,337	32,222	950,811
265 + 10,00	51,09			5,00	601		59,8	76	76	-525		162,413	32,298	950,266
266 +	27,30			5,00	392		172,6	219	219	-173		162,632	32,517	950,113
266 + 10,00	9,44			5,00	184		332,6	422	184	238		163,054	32,701	950,351
266 + 16,50				3,25	31		256,9	326	31	295		163,380	32,732	950,646
267 +				1,75			138,8	176		176		163,556	32,732	950,822
267 + 10,00				5,00	40,34		444,3	564	564	564		164,120	32,732	951,366
268 +				5,00	48,52		464,2	590	590	590		164,710	32,732	951,976
268 + 10,00				5,00	44,32		393,4	500	23	477		165,210	32,755	952,453
269 +				5,00	34,35		320,1	406	41	365		165,616	32,796	952,818
269 + 5,92				2,96	29,66		176,4	224	11	213		165,840	32,807	953,031
269 + 9,38				1,73	29,92		112,0	142		142		165,882	32,807	953,173
<b>INTERSEÇÃO COM TRECHO 2 - INTERVALO ENTRE AS ESTACAS 269+9,379 A 277+6,063</b>														
277 + 6,06	108,10			6,97	14,97		215,0	273	273	-1,155		166,255	33,080	952,018
278 +	96,72			4,93	15,88		190,7	242	242	-471		166,497	33,322	951,547
278 + 9,86	47,81			0,07	22,80		3,0	4	4	-3		166,501	33,326	951,544
278 + 10,00	48,26			5,00	20,49		255,1	324	299	25		166,825	33,625	951,569
279 +	11,57			5,00	30,53		298,8	379	136	243		166,825	33,625	951,569

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO						
	Corte				Aterro	Excedente	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner				
	1º	2º	3º														
279 + 10,00	15,67			29,22				310,3					215,392	167,204	33,761	951,812	
279 + 19,88	19,16			33,72										215,564	167,598	33,933	952,034
280 +	19,82			30,65				303,3						215,567	167,604	33,936	952,037
280 + 10,00	39,21			30,01				213,1						215,862	167,969	34,231	952,127
280 + 17,22	49,38			29,02				82,8						216,182	168,260	34,502	952,078
281 +	45,08			30,57										216,313	168,365	34,607	952,052
281 + 10,00	17,68			38,40				344,9						216,627	168,803	34,921	952,176
281 + 14,59	9,05			37,56				174,3						216,688	169,024	34,982	952,336
282 +	1,50			44,14				221,0						216,717	169,305	35,011	952,588
282 + 10,00				46,45				453,0						216,725	169,880	35,019	953,155
283 +				57,00				517,3						216,725	170,537	35,019	953,812
283 + 4,59				66,61				283,7						216,725	170,897	35,019	954,172
284 +				76,68				1,104,0						216,725	172,299	35,019	955,574
285 +				73,85				1,505,3						216,725	174,211	35,019	957,486
286 +				64,95				1,388,0						216,725	175,974	35,019	959,249
286 + 16,60				57,03				1,012,4						216,725	177,260	35,019	960,535
287 +				56,55				193,1						216,725	177,505	35,019	960,780
287 + 10,00				51,40				539,8						216,725	178,190	35,019	961,465
288 +				50,82				511,1						216,725	178,839	35,019	962,114
288 + 6,60				43,36				310,8						216,725	179,234	35,019	962,509
288 + 10,00				42,10				145,3						216,725	179,419	35,019	962,694
289 +				41,54				418,2						216,725	179,950	35,019	963,225
289 + 10,00				40,28				409,1						216,725	180,470	35,019	963,745
289 + 17,50				36,80				289,1						216,725	180,837	35,019	964,112



TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
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PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO						
	Corte				Aterro	Aterro	Excedente	Corte	Compensação Lateral		Aterro	Corte	Compensação Lateral				
	1ª	2ª	3ª						Aterro	Excedente			Aterro	Excedente	Aterro	Excedente	
290 +				1,25	85,8	109		109			109			216,725	180,946	35,019	964,221
290 + 10,00				5,00	305,9	388		388			388			216,725	181,334	35,019	964,609
291 +	1,63			5,00	288,2	366	8	366	8		366			216,733	181,700	35,027	964,967
291 + 8,39	1,14			4,20	218,7	278	12	278	12		278			216,745	181,978	35,039	965,233
291 + 10,00	1,10			0,81	38,3	49	2	49	2		49			216,747	182,027	35,041	965,280
292 +				5,00	255,6	325	6	325	6		325			216,753	182,352	35,047	965,599
292 + 10,00				5,00	258,4	328		328			328			216,753	182,680	35,047	965,927
292 + 18,39				4,20	211,6	269		269			269			216,753	182,949	35,047	966,196
293 +				0,81	42,4	54		54			54			216,753	183,003	35,047	966,250
293 + 5,08				2,54	147,9	188		188			188			216,753	183,191	35,047	966,438
293 + 10,00				2,46	147,2	187		187			187			216,753	183,378	35,047	966,625
294 +				5,00	282,3	359		359			359			216,753	183,737	35,047	966,984
294 + 10,00				5,00	281,0	357		357			357			216,753	184,094	35,047	967,341
295 +				5,00	264,9	336		336			336			216,753	184,430	35,047	967,677
295 + 7,34				3,67	191,5	243		243			243			216,753	184,673	35,047	967,920
295 + 10,00				1,33	71,1	90		90			90			216,753	184,763	35,047	968,010
296 +	3,03			5,00	220,5	280	15	280	15		280			216,768	185,043	35,062	968,275
296 + 10,00	10,08			5,00	175,9	223	66	223	66		223			216,834	185,266	35,128	968,432
297 +	12,89			5,00	162,8	207	115	207	115		207			216,949	185,473	35,243	968,524
297 + 9,59	10,15			4,80	151,4	192	110	192	110		192			217,059	185,665	35,353	968,606
297 + 14,63	8,06			2,52	85,8	109	46	109	46		109			217,105	185,774	35,399	968,669
298 +	5,66			2,69	98,2	125	37	125	37		125			217,142	185,899	35,436	968,757
298 + 10,00	1,74			5,00	202,6	257	37	257	37		257			217,179	186,156	35,473	968,977
				5,00	224,8	285	9	285	9		285						

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	AREA			Semi - Distância	VOLUME GEOMETRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO		
	Corte				Aterro	Excedente	Aterro	Compensação Lateral	Corte	Compensação Lateral	Aterro	Compensação Lateral	Bruckner
	1ª	2ª	3ª										
299 +	0,06			23,40		116,4		148		186,441		35,482	969,253
299 + 4,63				26,87			154,7	196		186,589		35,482	969,401
299 + 10,00				30,73		337,8	429	429		186,785		35,482	969,597
300 +				36,83			116,8	148		187,214		35,482	970,026
300 + 3,23				35,51		256,9	326	326		187,362		35,482	970,174
300 + 10,00				40,38						187,688		35,482	970,500
301 +				35,70		380,4	483	483		188,171		35,482	970,983
301 + 1,83				40,77		70,0	89	89		188,260		35,482	971,072
301 + 10,00				37,49		319,7	406	406		188,666		35,482	971,478
302 +	24,42			40,60	122	390,5	496	374		189,162		35,604	971,852
302 + 10,00	26,87			45,13	256	428,7	544	288		189,706		35,860	972,140
302 + 11,83	26,78			45,49	49	82,9	105	49		189,811		35,909	972,196
303 +	27,91			43,70	223	364,3	463	240		190,274		36,132	972,436
304 +	30,67			30,55	586	742,5	943	586		191,217		36,718	972,793
305 +	25,54			17,29	562	478,4	608	562		191,825		37,280	972,839
305 + 9,97	22,97			10,52	242	138,6	176	176		192,001		37,456	972,773
305 + 10,00	23,93			6,61	1	0,3		-1		192,001		37,456	972,772
306 +	24,66			0,87	243	37,4	47	47		192,048		37,503	972,576
306 + 10,00	29,19			0,66	269	7,7	10	10		192,048		37,513	972,317
307 +	36,61			0,06	329	3,6	5	5		192,058		37,518	971,993
307 + 5,63	36,59				206	0,2		-206		192,063		37,518	971,787
307 + 10,00	38,28				164			-164		192,063		37,518	971,623
308 +	48,83			0,06	436	0,3		-436		192,063		37,518	971,187
308 + 10,00	52,89			0,81	509	4,4	6	6		192,069		37,524	970,684

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO				VOLUME HOMOGÊNEO ACUMULADO					
	Corte				Aterro	Aterro	Excedente	Compensação Lateral	Aterro	Corte	Compensação Lateral	Aterro	Corte	Compensação Lateral	Bruckner		
	1ª	2ª	3ª													1ª	2ª
309 +	66,27			5,00	596			4,1	5	5	-591			221,981	192,074	37,529	970,093
309 + 1,29	62,89			0,65	83			0,0			-83			222,064	192,074		970,010
310 +	75,94			9,36	1.291						-1.291			223,355	192,074	37,529	968,719
311 +	71,75			10,00	1.471						-1.471			224,826	192,074	37,529	967,248
311 + 3,18	71,47			1,59	228						-228			225,054	192,074	37,529	967,020
311 + 10,00	77,26			3,41	507						-507			225,561	192,074	37,529	966,513
312 +	87,03			5,00	821						-821			226,382	192,074	37,529	965,692
312 + 10,00	95,55			5,00	913						-913			227,295	192,074	37,529	964,779
312 + 13,18	92,49			1,59	299						-299			227,594	192,074	37,529	964,480
313 +	94,27			3,41	637						-637			228,231	192,074	37,529	963,843
313 + 9,17	92,26			4,59	855						-855			229,086	192,074	37,529	962,988
313 + 10,00	91,49			0,42	76						-76			229,162	192,074	37,529	962,912
314 +	92,31			5,00	919						-919			230,081	192,074	37,529	961,983
314 + 5,15	85,23			2,58	457						-457			230,538	192,074	37,529	961,536
314 + 10,00	80,78			2,43	403						-403			230,941	192,074	37,529	961,133
315 +	70,56			5,00	757						-757			231,698	192,074	37,529	960,376
315 + 10,00	53,79			5,00	622						-622			232,320	192,074	37,529	959,754
315 + 15,15	47,77			2,58	262						-262			232,582	192,074	37,529	959,492
315 + 19,01	50,44			1,93	190						-190			232,772	192,074	37,529	959,302
316 +	50,05			0,49	50						-50			232,822	192,074	37,529	959,252
316 + 10,00	41,17			5,00	456						-456			233,278	192,074	37,529	958,796
317 +	38,56			5,00	399						-399			233,677	192,074	37,529	958,397
317 + 10,00	31,02			5,00	348						-348			234,025	192,074	37,529	958,049
				5,00	195			0,1			-195						

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO				
	Corte				Aterro	Aterro	Excedente	Corte	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1º	2º	3º												
318 +	8,07			0,02								234,220	192,074	37,529	957,854
318 + 10,00	0,06			5,42	41			27,2	35	35	-6	234,261	192,109	37,564	957,848
318 + 19,01				20,27				115,7	147	147	147	234,261	192,256	37,564	957,995
319 +				22,04				20,9	27	27	27	234,261	192,283	37,564	958,022
319 + 10,00				41,97				320,1	406	406	406	234,261	192,689	37,564	958,428
320 +				55,15				485,6	617	617	617	234,261	193,306	37,564	959,045
320 + 3,69				56,68				206,3	262	262	262	234,261	193,568	37,564	959,307
320 + 10,00				54,67				351,3	446	446	446	234,261	194,014	37,564	959,753
321 +				58,32				565,0	717	717	717	234,261	194,731	37,564	960,470
321 + 8,37				53,79				469,2	596	596	596	234,261	195,327	37,564	961,066
321 + 10,00				53,03				87,1	111	111	111	234,261	195,438	37,564	961,177
322 +				55,76				544,0	691	691	691	234,261	196,129	37,564	961,868
322 + 10,00				53,17				544,7	692	692	692	234,261	196,821	37,564	962,560
323 +				49,32				512,5	651	651	651	234,261	197,472	37,564	963,211
323 + 10,00				54,15				517,4	657	657	657	234,261	198,129	37,564	963,868
324 +				63,47				588,1	747	747	747	234,261	198,876	37,564	964,615
324 + 8,37				68,48				552,2	701	701	701	234,261	199,577	37,564	965,316
325 +				63,39				766,8	974	974	974	234,261	200,551	37,564	966,290
326 +				55,42				1,188,1	1,509	1,509	1,509	234,261	202,060	37,564	967,799
326 + 6,96				53,46				378,9	481	481	481	234,261	202,541	37,564	968,280
326 + 10,00				51,20				159,1	202	202	202	234,261	202,743	37,564	968,482
327 +				40,78				459,9	584	584	584	234,261	203,327	37,564	969,066
327 + 10,00				34,49				376,4	478	478	478	234,261	203,805	37,564	969,544
327 + 16,96				35,56				243,8	310	310	310	234,261	204,115	37,564	969,854

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	AREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO				VOLUME HOMOGÊNEO ACUMULADO					
	Corte				Aterro	Aterro	Excedente	Corte	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner		
	1ª	2ª	3ª														
328 +				1,52	106,1	135		135			135			234,261	204,250	37,564	969,989
328 + 7,39				3,70	247,0	314		314			314			234,261	204,564	37,564	970,303
328 + 10,00				1,31	85,8	109		109			109			234,261	204,673	37,564	970,412
328 + 17,82				3,91	268,5	341		341			341			234,261	205,014	37,564	970,753
329 +				1,09	73,7	94		94			94			234,261	205,108	37,564	970,847
329 + 10,00				5,00	366,0	465		465			465			234,261	205,573	37,564	971,312
330 +				5,00	450,9	573		573			573			234,261	206,146	37,564	971,885
330 + 7,82				3,91	403,0	512		512			512			234,261	206,658	37,564	972,397
331 +				6,09	639,1	812		812			812			234,261	207,470	37,564	973,209
332 +				10,00	766,7	999		999			999			234,261	208,469	37,564	974,208
332 + 4,52				2,26	126,4	160		160			160			234,261	208,629	37,564	974,368
332 + 10,00				2,74	147,6	187		187			187			234,261	208,816	37,564	974,555
333 +				5,00	136,7	174		112			62			234,373	208,990	37,676	974,617
333 + 10,00				5,00	25,3	32		32			-217			234,622	209,022	37,708	974,400
333 + 14,52				2,26	26,0	33		33			-96			234,751	209,055	37,741	974,304
333 + 19,89				2,69	56,0	71		71			-99			234,921	209,126	37,812	974,205
334 +				0,05	1,4	2		2			-2			234,925	209,128	37,814	974,203
334 + 5,25				2,63	82,2	104		104			-94			235,123	209,232	37,918	974,109
334 + 10,00				2,38	86,7	110		110			-85			235,318	209,342	38,028	974,024
335 +				5,00	147,7	188		188			-269			235,775	209,530	38,216	973,755
335 + 10,00				5,00	59,0	75		75			-505			236,355	209,605	38,291	973,250
335 + 15,25				2,63							-357			236,712	209,605	38,291	972,893
335 + 17,00				0,88							-117			236,829	209,605	38,291	972,776
				1,50	0,1	187		187			-187						

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

**PROJETO DE TERRAPLENAGEM**  
**CÁLCULO DE VOLUMES**

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNICO			VOLUME HOMOGÊNICO ACUMULADO					
	Corte				Aterro	Aterro	Excedente	Corte	Compensação Lateral		Bruckner					
	1º	2º	3º						Aterro	Compensação Lateral						
336 +	58,71			0,04												
336 + 10,00				5,00	546			39,2	50	-496		209,605	38,291		972,589	
336 +	50,56			7,80												
337 +	39,00			5,00	448			93,5	119	-329		209,655	38,341		972,093	
337 + 10,00				5,00	371			112,6	143	-228		209,774	38,460		971,764	
338 +	40,70			5,00	379			125,2	159	-220		209,917	38,603		971,536	
338 + 10,00				5,00	458			108,9	138	-320		210,076	38,762		971,316	
338 +	50,86			3,50	337			57,9	73	-264						
338 + 17,00				1,50	134			23,2	29	-105		210,287	38,973		970,732	
339 +	43,79			5,00	384			73,9	94	-290		210,316	39,002		970,627	
339 + 10,00				0,57	35			8,7	11	-24		210,410	39,096		970,337	
339 + 11,13				4,44	140			89,5	114	-26		210,421	39,107		970,313	
340 +	2,29			2,63	6			76,0	96	90		210,535	39,221		970,267	
340 + 5,25				2,38				88,8	113	113		210,631	39,227		970,377	
340 + 10,00				5,00				238,4	303	303		210,744	39,227		970,490	
341 +	26,96			5,00				298,1	380	380		211,047	39,227		970,793	
341 + 10,00				5,00				333,2	423	423		211,427	39,227		971,173	
342 +	33,79			5,00				345,8	439	439		211,850	39,227		971,596	
342 + 10,00				5,00				358,4	455	455		212,289	39,227		972,035	
343 +	36,32			2,63				186,5	237	237		212,744	39,227		972,490	
343 + 5,25				7,38				468,5	595	595		212,981	39,227		972,727	
344 +	28,78			1,07				61,1	78	78		213,576	39,227		973,322	
344 + 2,14				3,93				208,7	265	265		213,854	39,227		973,400	
344 + 10,00				5,00				231,2	294	294		213,919	39,227		973,665	
345 +	21,45			5,00				207,6	264	264		214,213	39,227		973,959	
345 + 10,00												214,477	39,227		974,223	

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte				Aterro	Aterro	Excedente	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1º	2º	3º											
345 + 12,14				16,15			38,7	49		49	240,254	214,526	39,227	974,272
346 +				22,15			150,5	191		191	240,254	214,717	39,227	974,463
346 + 1,07				18,43			21,7	28		28	240,254	214,745	39,227	974,491
346 + 10,00				26,09			198,8	252		252	240,254	214,997	39,227	974,743
347 +				28,56			273,3	347		347	240,254	215,344	39,227	975,090
347 + 10,00				25,38			269,7	343		343	240,254	215,687	39,227	975,433
348 +				24,90			251,4	319		319	240,254	216,006	39,227	975,752
348 + 17,64	11,64			13,88			342,0	434	103	331	240,254	216,440	39,330	976,083
349 +				10,51			28,8	37	37	-1	240,395	216,477	39,367	976,082
349 + 10,00	80,83			0,83			56,7	72	72	-436	240,903	216,549	39,439	975,646
350 +				1,91			13,7	17	17	-938	241,858	216,566	39,456	974,708
350 + 7,64				2,12			15,4	20	20	-401	242,279	216,566	39,476	974,307
350 + 10,00	147,80			1,15			3,9	5	5	-169	242,453	216,591	39,481	974,138
350 + 10,50	149,88			1,58			0,7	1	1	-73	242,527	216,592	39,482	974,065
350 + 13,36	158,39			1,69			4,7	6	6	-435	242,968	216,598	39,488	973,630
351 +				0,92			8,7	11	11	-1,035	244,014	216,609	39,499	972,595
351 + 10,00	141,24			0,61			7,7	10	10	-1,480	245,504	216,619	39,509	971,115
352 +				0,16			3,9	5	5	-1,337	246,846	216,624	39,514	969,778
352 + 3,36	129,97			0,03			0,3			-432	247,278	216,624	39,514	969,346
353 +							0,2			-2,148	249,426	216,624	39,514	967,198
354 +										-2,527	251,963	216,624	39,514	964,671
355 +										-2,200	254,153	216,624	39,514	962,471
356 +										-1,619	255,772	216,624	39,514	960,852
							21,1	27	27	-1,019				

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

**PROJETO DE TERRAPLENAGEM**  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte		Aterro		1º	2º	3º	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1º	2º	3º											
356 + 17,43	53,68		2,42	1,29	130		6,5	8	-122	256,818	216,651	39,541	959,833	
357 +	47,12		2,63	5,00	407		26,2	33	-374	256,948	216,659	39,549	959,711	
357 + 10,00	34,18		2,60	5,00	311		26,2	33	-278	257,355	216,692	39,582	959,337	
358 +	28,00		2,63	5,00	266		25,5	32	-234	257,666	216,725	39,615	959,059	
358 + 10,00	25,17		2,47	3,85	216		17,2	22	-194	257,952	216,757	39,647	958,825	
358 + 17,69	30,92		2,00	1,16	69		5,4	7	-62	258,148	216,779	39,669	958,631	
359 +	28,48		2,71	5,00	333		41,0	52	-281	258,217	216,786	39,676	958,569	
359 + 10,00	38,19		5,48	5,00	420		61,3	78	-342	258,550	216,838	39,728	958,288	
360 +	45,90		6,78	5,00	444		79,7	101	-343	258,970	216,916	39,806	957,946	
360 + 10,00	42,85		9,16	3,98	337		74,1	94	-243	259,414	217,017	39,907	957,603	
360 + 17,96	41,88		9,46	1,02	80		20,2	26	-54	259,751	217,111	40,001	957,360	
361 +	36,81		10,35	10,00	792		164,3	209	-583	259,831	217,137	40,027	957,306	
362 +	42,37		6,08	10,00	476		101,7	129	-347	260,623	217,346	40,236	956,723	
363 +	5,26		4,09	10,00	53		273,4	347	294	261,099	217,475	40,365	956,376	
364 +			23,25	10,00			656,1	833	833	261,152	217,822	40,418	956,670	
365 +			42,36	0,77			65,5	83	83	261,152	218,655	40,418	957,503	
365 + 1,53			43,23	4,24			391,8	498	498	261,152	218,738	40,418	957,586	
365 + 10,00			49,28	3,30			315,9	401	401	261,152	219,236	40,418	958,084	
365 + 16,60			46,46	1,70			158,0	201	201	261,152	219,637	40,418	958,485	
366 +			46,49	5,00			583,2	741	741	261,152	219,838	40,418	958,666	
366 + 10,00			70,15	0,84			102,1	130	130	261,152	220,579	40,418	959,427	
366 + 11,68			51,39	1,93			203,1	258	258	261,152	220,709	40,418	959,557	
366 + 15,53			54,14	2,24			241,8	307	307	261,152	220,967	40,418	959,815	
367 +			54,04							261,152	221,274	40,418	960,122	



TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Eixo

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte		Aterro		1º	2º	3º	Aterro	Excedente	Compensação Lateral	Corte	Aterro	Compensação Lateral	Bruckner
	1º	2º	3º											
367 + 10,00			61,89	5,00			579,7	736		261,152	222,010	40,418	960,858	
368 +			54,48	5,00			581,9	739		261,152	222,749	40,418	961,597	
368 + 10,00			24,79	5,00			396,4	503		261,152	223,252	40,418	962,100	
368 + 17,53			11,36	3,77			136,1	173		261,152	223,425	40,418	962,273	
369 +			12,04	1,24			28,9	37		261,152	223,462	40,418	962,310	
369 + 10,00		0,02	1,82	5,00			69,3	88		261,152	223,550	40,418	962,398	
370 +			3,52	5,00			26,7	34		261,152	223,584	40,418	962,432	
370 + 10,00			5,59	5,00			45,6	58		261,152	223,642	40,418	962,490	
370 + 19,53			5,14	4,77			51,1	65		261,152	223,707	40,418	962,555	
371 +			5,46	0,23			2,5	3		261,152	223,710	40,418	962,568	
372 +			8,16	10,00			136,2	173		261,152	223,883	40,418	962,731	
373 +			6,15	10,00			143,1	182		261,152	224,065	40,418	962,913	





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### ***3.2 – VOLUMES DE TERRAPLENAGEM – RÓTULA COM TRECHO 02***

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TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Rótula com Trecho 2

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

RAMO 100	ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO				
		Corte		Aterro		1ª	2ª	3ª	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckter	
		1ª	2ª													3ª
	100 +			17,3												1.000.000
	100 + 10,00			25,03	5,00			211,7	269		269				269	1.000.269
	101 +			42,51	5,00			337,7	429		429				698	1.000.698
	101 + 10,00			51,22	5,00			468,7	595		595				1.293	1.001.293
	102 +			55,48	5,00			533,5	678		678				1.971	1.001.971
	102 + 1,26			55,28	0,63			69,8	89		89				2.060	1.002.060
	102 + 10,00			58,27	4,37			496,2	630		630				2.690	1.002.690
	103 +			67,6	5,00			629,4	799		799				3.489	1.003.489
	103 + 10,00			70,22	5,00			689,1	875		875				4.364	1.004.364
	104 +			43,64	5,00			569,3	723		723				5.087	1.005.087
	104 + 2,53			38,19	1,27			103,5	131		131				5.218	1.005.218
	104 + 14,13	6,90		12,16	5,80		40	292,0	371	40	331				40	1.005.549
	105 +	24,14		1,95	2,94		91	414	53	53	-38				131	1.005.511
	105 + 10,00	68,46			5,00		463	9,8	12	12	-451				594	1.005.060
	106 +	81,09		6,08	5,00		748	30,4	39	39	-709				1.342	1.004.351
	106 + 6,91	76,56		6,48	3,46		545	43,4	55	55	-490				1.887	1.003.861
	106 + 10,00	71,37		4,98	1,55		229	17,7	22	22	-207				2.116	1.003.654
	107 +	52,47		2,21	5,00		619	36,0	46	46	-573				2.735	1.003.081
	107 + 10,00	38,59		1,44	5,00		455	18,3	23	23	-432				3.190	1.002.649
	107 + 19,70	32,43		0,86	4,85		344	11,2	14	14	-330				3.534	1.002.319
	108 +	32,31		0,86	0,15		10	0,3			-10				3.544	1.002.309
	108 + 9,72	28,82		1,1	4,86		297	9,5	12	12	-285				3.841	1.002.024
					0,14		8	0,3			-8				5.865	1.002.024

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Rótula com Trecho 2

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte		Aterro		1ª	2ª	3ª	Aterro	Excedente	Compensação Lateral	Corte	Aterro	Compensação Lateral	Bruckner
	1ª	2ª	3ª											
108 + 10,00	28,73		1,11		287		10,5	13	-274	3,849	5,865	316	1.002,016	
109 +	28,63		0,98		305		7,1	9	-296	4,136	5,878	329	1.001,742	
109 + 10,00	32,37		0,44		351		2,2	3	-348	4,441	5,887	338	1.001,446	
109 + 19,72	39,83		0,01		11		0,0		-11	4,792	5,890	341	1.001,098	
110 +	40,12				110				-110	4,803	5,890	341	1.001,087	
110 + 2,64	43,24				132				-132	4,913	5,890	341	1.000,977	
110 + 5,56	47,20				225				-225	5,045	5,890	341	1.000,845	
110 + 10,00	54,17				557				-557	5,270	5,890	341	1.000,620	
111 +	57,19				580				-580	5,827	5,890	341	1.000,063	
111 + 10,00	58,85				1.098				-1.098	6,407	5,890	341	999,483	
111 + 15,58	336,24				37				-37	7,505	5,890	341	998,385	
111 + 15,67	332,11									7,542	5,890	341	998,348	

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Rótula com Trecho 2

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

RAMO 200

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte		Aterro		1ª	2ª	3ª	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1ª	2ª												
200 +	1,27			19,41				7,4						1.000.000
200 + 0,39	1,32			19,29				182,4	14	218		9		1.000.009
200 + 10,00	1,51			18,66	10			193,9	10	236		241	14	1.000.227
201 +	0,54			20,12				217,0	3	273		487	24	1.000.463
201 + 10,00	0,02			23,28	3			16,4		21		763	27	1.000.736
201 + 10,68	0,12			24,91				84,2		107		784	27	1.000.757
201 + 14,08				24,64				85,0		108		891	27	1.000.864
201 + 17,48				25,34				64,5		82		999	27	1.000.972
202 +				25,87				271,7		345		1.081	27	1.001.054
202 + 10,00				28,46				297,7		378		1.426	27	1.001.399
203 +				31,08				246,9		314		1.804	27	1.001.777
203 + 7,78				32,38				206,0		262		2.118	27	1.002.091
203 + 14,06				33,21				202,4		257		2.380	27	1.002.353
204 +				34,95				380,0		483		2.637	27	1.002.610
204 + 10,00				41,04				461,2		586		3.120	27	1.003.093
205 +				51,19				296,5		377		3.706	27	1.003.679
205 + 5,32				60,29				304,2		386		4.063	27	1.004.056
205 + 10,00				69,71				644,9		819		4.469	27	1.004.442
206 +				59,27				545,0		692		5.288	27	1.005.261
206 + 10,00				49,73				296,5		377		5.980	27	1.005.953
206 + 16,58				40,39								6.357	27	1.006.330
206 + 16,58				40,39				129,7		165		6.357	27	1.006.330

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
 Rótula com Trecho 2

PROJETO DE TERRAPLENAGEM  
 CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte		Aterro		1ª	2ª	3ª	Aterro	Excedente	Compensação Lateral	Corte	Aterro	Compensação Lateral	Bruckner
	1ª	2ª	3ª											
207 +			35,46	5,00	24		267,1	315	24	27	6.522	27	1.006.495	
207 + 10,00	4,71		17,96	3,09	62		105,3	72	62	51	6.861	51	1.006.810	
207 + 16,18	15,27		16,11	1,91	78		44,8	-21	57	113	6.995	113	1.006.882	
208 +	25,34		7,34	5,00	434		37,5	-386	48	191	7.052	170	1.006.861	
208 + 10,00	61,47		0,15		440		0,5	-439	1	625	7.100	218	1.006.475	
208 + 15,77	91,13		0,04	2,89					1	1.065	7.101	219	1.006.036	
209 +	105,19			2,12	415		0,1	-415						
209 + 1,13	107,15			0,57	120			-120		1.480	7.101	219	1.005.621	
										1.600	7.101	219	1.005.501	



TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Rótula com Trecho 2

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

RAMO 300	ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO				
		Corte		Aterro		1ª	2ª	3ª	Aterro	Compensação Lateral	Excedente	Corte	Aterro	Compensação Lateral	Bruckner	
		1ª	2ª													3ª
	300 +			0,17												1.000.000
	300 + 10,00			3,41				17,9			6	17			6	1.000.017
	301 +			11,96				76,9			6	92			12	1.000.109
	301 + 1,00			12,97				12,5				16			12	1.000.125
	301 + 10,00			18,56				141,9				180			12	1.000.305
	302 +			25,45				220,1				279			12	1.000.584
	302 + 1,99			25,87				51,1				65			12	1.000.649
	302 + 7,41			29,47				150,0				190			12	1.000.839
	302 + 10,00			27,42				73,7				94			12	1.000.933
	302 + 12,83			24,51				73,5				93			12	1.001.026
	303 +			18,14				152,9				194			12	1.001.220
	303 + 6,57			17,74				117,9				150			12	1.001.370
	303 + 10,00			17,66				60,7				77			12	1.001.447
	304 +			20,61				191,4				243			12	1.001.690
	304 + 7,48			19,17				148,8				189			12	1.001.879
	304 + 10,00			18,41				47,4				60			12	1.001.939
	305 +			15,3				168,6				214			12	1.002.153
	305 + 8,40			15,77				130,5				166			12	1.002.319
	305 + 10,00			15,81				25,3				32			12	1.002.351
	306 +			14,16				149,9				190			12	1.002.541
	306 + 7,10			13,09				96,7				123			12	1.002.664
	306 + 10,00			12,48				37,1				47			12	1.002.711
								106,7				135			12	

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Rótula com Trecho 2

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO					
	1ª	2ª	3ª		1ª	2ª	3ª	Aterro	Excedente	Corte	Aterro	Compensação Lateral	Bruckner			
307 +				8,85									12	2.858	12	1.002.846
307 +	5,81			6,86				45,6	58				12	2.916	12	1.002.904
307 +	7,97	9,33		6,15				14,1	18	10	8		22	2.834	22	1.002.912

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Rótula com Trecho 2

**PROJETO DE TERRAPLENAGEM**  
CÁLCULO DE VOLUMES

RAMO 400

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO			
	Corte		Aterro		Aterro	Aterro	Excedente	Corte	Aterro	Compensação Lateral	Aterro	Compensação Lateral	Bruckner	
	1ª	2ª												3ª
400 +			78,84	5,00			42	762,5	968	42	926			1.000.000
400 + 10,00	8,42		73,65	5,00			42	907,8	1.153	42	1.111			1.000.926
401 +			107,9	5,00				1.047,0	1.330		1.330			1.002.037
401 + 10,00			101,5	5,00				1.088,8	1.383		1.383			1.003.367
402 +			116,26	3,56				748,6	951		951			1.004.750
402 + 7,12	0,01		94,02	1,44				264,7	336		336			1.005.701
402 + 10,00			89,8	5,00				920,0	1.168		1.168			1.006.037
403 +			94,19	5,00				1.020,1	1.295		1.295			1.007.205
403 + 10,00			109,82	5,00				1.075,2	1.365		1.365			1.008.500
404 +			105,21	5,00				945,3	1.201		1.201			1.009.865
404 + 10,00			83,85	2,13				345,7	439		439			1.011.066
404 + 14,25			78,84											1.011.505





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### ***3.3 – VOLUMES DE TERRAPLENAGEM – RÓTULA COM TRECHO 04***

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TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Rótula com Trecho 4

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

RAMO 100

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNICO			VOLUME HOMOGÊNICO ACUMULADO					
	Corte				Aterro	Aterro	Excedente	Corte	Compensação Lateral	Aterro	Compensação Lateral	Bruckner	Corte	Aterro	Compensação Lateral	
	1ª	2ª	3ª													
100 +	8,99			5,00			84									1.000.000
100 + 10,00	7,76			5,00			50	1,8	2	-48		84				999.916
101 +	2,30	0,35		5,00			12	52,2	66	54		134	2			999.868
101 + 10,00		10,09		0,18				3,8	5	5		146	68	14		999.922
101 + 10,35		11,63		4,83				482,7	613	613		146	73	14		999.927
102 +		88,41		5,00				834,6	1.060	1.060		146	686	14		1.000.540
102 + 10,00		78,51		5,00				760,8	966	966		146	1.746	14		1.001.600
103 +		73,64		0,35				51,4	65	65		146	2.712	14		1.002.566
103 + 0,70		73,21		9,65				1.437,6	1.826	1.826		146	2.777	14		1.002.631
104 +		75,76		5,96				735,1	934	934		146	4.803	14		1.004.457
104 + 11,91		47,68		4,05				308,8	392	392		146	5.637	14		1.005.391
105 +		28,66		1,10				58,9	75	75		146	5.929	14		1.005.783
105 + 2,20		24,90		3,90				174,7	222	222		146	6.004	14		1.005.858
105 + 10,00		19,89		1,25				50,5	64	64		146	6.226	14		1.006.080
105 + 12,50		20,49		3,75				158,0	202	202		146	6.290	14		1.006.144
106 +		21,90		0,48				20,8	26	26		146	6.492	14		1.006.346
106 + 0,95		21,96		4,23				164,0	208	208		146	6.518	14		1.006.372
106 + 9,41		16,80		1,37				45,8	58	58		146	6.726	14		1.006.580
106 + 12,14		16,77										146	6.784	14		1.006.638

TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Rótula com Trecho 4

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

RAMO 200	ESTACA			ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO		
	200 +	Corte		Aterro	1ª	Corte		Aterro	Aterro	Excedente	Compensação Lateral	Aterro	Corte	Compensação Lateral	Bruckner	
		1ª	2ª			3ª										2ª
		84,93			1.042		5,00								1.000,000	
	200 + 10,00	123,49			787		2,94					1,042			998,958	
	200 + 15,88	144,3			621		2,06					1,829			998,171	
	201 +	157,19			1.565		5,00					2,450			997,550	
	201 + 10,00	155,79			270		0,88					4,015			995,985	
	201 + 11,76	150,94			1.175		4,12		12,7			4,285			995,715	
	202 +	134,18		3,08	696		2,58		26,0		16	5,460	16		994,556	
	202 + 5,16	135,64		6,98	570		2,42		29,2		33	6,156	49		993,893	
	202 + 10,00	99,9		5,08	729		4,28		26,3		33	6,726	86		993,360	
	202 + 18,56	70,54		1,06	100		0,72		1,7		2	7,455	119		992,664	
	203 +	68,08		1,33	1.455		10,00		45,6		58	7,555	121		992,566	
	204 +	77,4		3,23	86		0,56		3,7		5	9,010	179		991,169	
	204 + 1,11	76,81		3,36	696		4,45		39,8		51	9,096	184		991,088	
	204 + 10,00	79,73		5,6	713		5,00		52,3		66	9,792	235		990,443	
	205 +	62,95		4,86	431		3,84		33,9		43	10,505	301		989,796	
	205 + 7,67	49,34		3,97	109		1,17		9,3		12	10,936	344		989,408	
	205 + 10,00	43,9		4,01	351		5,00		42,4		54	11,045	356		989,311	
	206 +	26,25		4,47	282		5,00		44,2		56	11,396	410		989,014	
	206 + 10,00	30,08		4,37	139		2,11		18,0		23	11,678	466		988,788	
	206 + 14,22	35,91		4,18								11,817	489		988,672	





TRECHO 3 - Água Pretinha - Santa Lúcia - Cancela  
Rótula com Trecho 4

PROJETO DE TERRAPLENAGEM  
CÁLCULO DE VOLUMES

RAMO 400

ESTACA	ÁREA			Semi - Distância	VOLUME GEOMÉTRICO			VOLUME HOMOGÊNEO			VOLUME HOMOGÊNEO ACUMULADO		
	Corte		Aterro		1ª	2ª	3ª	Aterro	Excedente	Corte	Aterro	Compensação Lateral	Bruckner
	1ª	2ª	3ª										
400 +			71,71	5,00			964,8	1,225				1.000,000	
400 + 10,00			121,24	5,00			997,1	1,266		1,225		1.001,225	
401 +			78,17	5,00			728,5	925		2,491		1.002,491	
401 + 10,00			67,52	5,00			722,1	917		3,416		1.003,416	
402 +	0,03		76,90	3,56			545,6	693		4,333		1.004,333	
402 + 7,12			76,36	1,44			204,7	260		5,026		1.005,026	
402 + 10,00			65,78	5,00			551,7	701		5,286		1.005,286	
403 +			44,55	5,00			430,1	546		5,987		1.005,987	
403 + 10,00			41,46	5,00			445,5	566		6,533		1.006,533	
404 +			47,63	5,00			593,5	754		7,099		1.007,099	
404 + 10,00			71,07	2,13			303,4	385		7,853		1.007,853	
404 + 14,25			71,71							8,238		1.008,238	



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## 4.0 – NOTAS DE SERVIÇO

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***4.1 – NOTAS DE SERVIÇO DE TERRAPLENAGEM –  
EIXO DA RODOVIA***

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Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO			Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET				
		Distância (m)	Cota (m)	Distância (m)	Cota (m)	(%)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)		
0+0,000		-6,111	34,796	-5,600	34,751	0,000	34,751	0,560	34,191	0,560	34,751	0,000	5,600	34,751	8,209	33,397
1+0,000		-5,899	34,911	-5,600	34,725	-3,000	34,893	0,996	33,897	0,996	34,725	-3,000	5,600	34,725	7,963	33,534
2+0,000		-6,674	34,536	-5,600	34,866	-3,000	35,034	1,496	33,538	1,496	34,866	-3,000	5,600	34,866	9,533	32,629
3+0,000		-6,986	34,504	-5,600	35,043	-2,370	35,176	1,721	33,455	1,721	35,008	-3,000	5,600	35,008	9,810	32,586
3+8,873	TS	-6,923	34,742	-5,600	35,239	0,000	35,239	1,855	33,384	1,855	35,071	-3,000	5,600	35,071	9,259	33,016
3+10,000		-6,954	34,790	-5,665	35,264	0,300	35,247	1,872	33,375	1,872	35,079	-3,000	5,598	35,079	9,234	33,040
4+0,000		-7,008	35,137	-5,996	35,492	2,970	35,317	1,907	33,410	1,907	35,139	-3,000	5,930	35,139	9,479	33,158
4+10,000		-6,690	35,617	-5,952	35,724	5,640	35,388	0,899	34,489	0,899	35,027	-5,650	6,398	35,027	9,436	33,387
4+18,873	SC	-6,733	36,126	-6,400	35,963	8,000	35,451	0,653	34,798	0,653	34,939	-8,000	6,400	34,939	9,361	33,350
5+0,000		-6,665	36,180	-6,400	35,971	8,000	35,459	0,644	34,815	0,644	34,947	-8,000	6,400	34,947	9,396	33,335
5+1,859		-6,570	36,256	-6,400	35,984	8,000	35,472	0,640	34,832	0,640	34,960	-8,000	6,400	34,960	9,440	33,319
5+4,846	CS	-6,497	36,326	-6,400	36,005	8,000	35,493	0,664	34,829	0,664	34,981	-8,000	6,400	34,981	9,467	33,322
5+10,000		-6,402	36,130	-6,117	35,935	6,630	35,530	0,739	34,791	0,739	35,105	-6,630	6,404	35,105	9,584	33,370
6+0,000		-6,579	35,833	-5,995	35,838	3,960	35,601	0,776	34,825	0,776	35,363	-3,960	5,997	35,363	9,399	33,480
6+10,000		-6,390	35,780	-5,862	35,747	1,290	35,671	0,922	34,749	0,922	35,486	-3,310	5,591	35,486	8,990	33,605
6+14,846	ST	-6,163	35,715	-5,600	35,706	0,000	35,706	1,008	34,698	1,008	35,538	-3,000	5,600	35,538	9,049	33,623
7+0,000		-6,165	35,674	-5,600	35,665	-1,370	35,742	1,087	34,655	1,087	35,574	-3,000	5,600	35,574	9,341	33,465
8+0,000		-5,829	36,330	-5,600	35,716	-3,000	35,884	1,825	34,059	1,825	35,719	-2,950	5,600	35,719	9,121	33,756
8+14,773	TS	-6,666	37,271	-5,600	35,820	-3,000	35,988	1,319	34,669	1,319	35,988	0,000	5,600	35,988	8,934	34,150
9+0,000		-6,734	37,510	-5,471	35,861	-3,000	36,025	1,096	34,929	1,096	36,085	1,050	5,690	36,085	8,978	34,278
9+10,000		-7,255	37,900	-5,607	35,867	-4,030	36,092	0,610	35,482	0,610	36,267	3,050	5,733	36,267	9,234	34,318
10+0,000		-6,255	36,017	-5,957	35,831	-5,050	36,132	0,193	35,939	0,193	36,429	5,050	5,887	36,429	9,222	34,591
10+4,773	SC	-6,179	36,106	-6,100	35,774	-6,000	36,140	0,010	36,130	0,010	36,506	6,000	6,100	36,506	9,556	34,587
10+10,000		-6,250	36,310	-6,100	35,775	-6,000	36,141	0,027	36,114	0,027	36,507	6,000	6,100	36,507	9,644	34,529
10+18,579		-6,542	36,585	-6,100	35,758	-6,000	36,124	-0,026	36,150	-0,026	36,490	6,000	6,100	36,490	9,406	34,671
11+0,000		-6,535	36,572	-6,100	35,752	-6,000	36,119	-0,040	36,159	-0,040	36,484	6,000	6,100	36,484	9,326	34,719
11+10,000		-6,499	36,483	-6,100	35,699	-6,000	36,065	-0,283	36,348	-0,283	36,431	6,000	6,100	36,431	8,756	35,046
11+12,386	CS	-6,494	36,461	-6,100	35,682	-6,000	36,048	-0,376	36,424	-0,376	36,414	6,000	6,100	36,414	8,723	35,050
12+0,000		-6,274	36,390	-5,982	35,713	-4,480	35,981	-0,279	36,260	-0,279	36,251	4,480	6,020	36,251	8,292	35,121

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	Cota (m)	(%)		
12+10,000		-5,744	36,136	-5,696	35,703	-2,850	35,866	-0,247	36,113	-0,247	36,014	5,986	36,014	2,480	8,038	35,031
13+0,000		-5,802	35,885	-5,569	35,655	-1,230	35,723	-0,220	35,943	-0,220	35,751	5,730	35,751	0,480	7,251	35,122
13+2,386	ST	-5,806	35,890	-5,600	35,642	-0,830	35,688	-0,170	35,858	-0,170	35,688	5,600	35,688	0,000	6,974	35,157
13+7,232	TS	-5,757	35,898	-5,600	35,617	0,000	35,617	-0,080	35,697	-0,080	35,563	5,600	35,563	-0,970	6,738	35,189
13+10,000		-5,745	35,939	-5,670	35,604	0,470	35,577	-0,078	35,655	-0,078	35,498	5,600	35,498	-1,410	6,617	35,205
14+0,000		-6,108	36,296	-5,770	35,573	2,180	35,447	-0,033	35,480	-0,033	35,274	5,762	35,274	-3,000	6,581	35,113
14+10,000		-6,018	35,835	-5,830	35,576	3,890	35,349	-0,026	35,375	-0,026	35,097	5,970	35,097	-4,230	6,591	35,068
14+17,232	SC	-6,214	35,849	-6,000	35,606	5,120	35,299	-0,010	35,309	-0,010	34,992	6,000	34,992	-5,120	6,341	35,149
15+0,000		-6,206	35,839	-6,000	35,591	5,120	35,284	0,004	35,280	0,004	34,977	6,000	34,977	-5,120	6,305	35,159
15+10,000		-6,414	35,668	-6,000	35,559	5,120	35,252	0,050	35,202	0,050	34,945	6,000	34,945	-5,120	6,422	35,048
16+0,000		-6,460	35,637	-6,000	35,559	5,120	35,252	0,014	35,238	0,014	34,945	6,000	34,945	-5,120	6,590	34,936
16+10,000		-6,729	35,491	-6,000	35,592	5,120	35,284	-0,022	35,306	-0,022	34,977	6,000	34,977	-5,120	6,590	34,969
16+11,735		-6,728	35,500	-6,000	35,600	5,120	35,293	-0,030	35,323	-0,030	34,986	6,000	34,986	-5,120	6,559	34,998
17+0,000		-6,458	35,720	-6,000	35,640	5,120	35,333	-0,064	35,397	-0,064	35,026	6,000	35,026	-5,120	6,525	35,061
17+10,000		-6,386	35,817	-6,000	35,689	5,120	35,382	-0,095	35,477	-0,095	35,075	6,000	35,075	-5,120	6,502	35,125
18+0,000		-6,200	35,989	-6,000	35,738	5,120	35,431	-0,126	35,557	-0,126	35,123	6,000	35,123	-5,120	6,514	35,166
18+6,239	CS	-6,064	36,119	-6,000	35,777	5,120	35,470	-0,133	35,603	-0,133	35,163	6,000	35,163	-5,120	6,683	35,092
18+10,000		-6,094	36,412	-5,830	35,763	4,480	35,502	-0,146	35,648	-0,146	35,234	5,899	35,234	-4,540	6,446	35,254
19+0,000		-6,753	37,265	-5,646	35,773	2,770	35,617	-0,155	35,772	-0,155	35,449	5,600	35,449	-3,000	5,905	35,630
19+10,000		-7,285	37,869	-5,637	35,836	1,060	35,776	-0,166	35,942	-0,166	35,612	5,472	35,612	-3,000	5,591	36,115
19+16,239	ST	-7,686	38,369	-5,600	35,898	0,000	35,898	-0,166	36,064	-0,166	35,730	5,600	35,730	-3,000	5,856	36,371
20+0,000		-12,954	39,657	-9,600	35,918	-0,640	35,979	-0,159	36,138	-0,159	35,811	5,600	35,811	-3,000	5,941	36,537
21+0,000		-18,959	45,847	-9,600	36,103	-3,000	36,391	-0,207	36,598	-0,207	36,223	5,600	36,223	-3,000	6,058	37,066
22+0,000		-25,474	49,407	-9,600	36,238	-3,000	36,526	-1,614	38,140	-1,614	36,358	5,600	36,358	-3,000	5,719	36,862
23+0,000		-17,825	44,943	-9,600	36,332	-0,130	36,345	-1,467	37,812	-1,467	36,177	5,600	36,177	-3,000	5,661	36,521
23+0,510	TS	-17,725	44,846	-9,600	36,336	0,000	36,336	-1,465	37,801	-1,465	36,168	5,600	36,168	-3,000	5,669	36,507
23+10,000		-15,640	42,460	-9,932	36,366	2,320	36,136	-1,373	37,509	-1,373	35,918	5,642	35,918	-3,860	5,692	36,353
24+0,000		-12,982	39,750	-9,980	36,363	4,770	35,887	-1,297	37,184	-1,297	35,601	5,999	35,601	-4,770	6,196	36,183
24+10,000		-11,756	38,371	-10,180	36,410	7,220	35,675	-1,248	36,923	-1,248	35,226	6,202	35,226	-7,220	6,433	35,842



Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
24+10,510	SC	-11,772	38,372	-10,200	36,415	7,350	35,666	36,808	-1,142	6,200	35,210	-7,350	6,425	35,820		
25+0,000		-11,655	38,124	-10,200	36,284	7,350	35,534	36,032	-0,498	6,200	35,079	-7,350	6,658	35,921		
25+0,118		-11,649	38,117	-10,200	36,283	7,350	35,533	36,015	-0,482	6,200	35,077	-7,350	6,660	35,923		
25+9,727	CS	-11,140	37,542	-10,200	36,217	7,350	35,467	35,191	0,276	6,200	35,011	-7,350	6,478	35,674		
25+10,000		-11,131	37,537	-10,189	36,209	7,290	35,466	35,174	0,292	6,207	35,014	-7,290	6,458	35,649		
26+0,000		-10,587	37,155	-9,796	35,979	5,190	35,471	34,761	0,710	6,191	35,149	-5,190	6,962	35,020		
26+10,000		-5,774	35,990	-5,600	35,720	3,100	35,547	34,581	0,966	5,934	35,363	-3,100	8,237	34,213		
26+19,727	ST	-6,803	35,333	-5,600	35,750	1,060	35,691	34,487	1,204	5,907	35,628	-1,060	8,156	34,514		
27+0,000		-6,835	35,313	-5,600	35,752	1,000	35,696	34,485	1,211	5,907	35,637	-1,000	8,159	34,520		
27+5,882	PC	-7,474	34,940	-5,600	35,804	-0,230	35,817	34,446	1,371	5,854	35,830	0,230	8,303	34,583		
27+10,000		-7,837	34,753	-5,600	35,859	-1,040	35,917	34,416	1,501	5,806	35,977	1,040	8,525	34,549		
28+0,000		-8,783	34,305	-5,600	36,042	-3,000	36,210	34,337	1,873	5,800	36,384	3,000	9,215	34,493		
28+10,000		-9,855	33,920	-5,600	36,371	-3,000	36,539	34,298	2,241	5,800	36,713	3,000	9,672	34,517		
29+0,000		-10,395	33,860	-5,600	36,672	-3,000	36,840	34,240	2,600	5,800	37,014	3,000	9,913	34,656		
29+8,049		-10,811	33,782	-5,600	36,871	-3,000	37,039	34,195	2,844	5,800	37,213	3,000	9,891	34,870		
29+10,000		-10,866	33,788	-5,600	36,914	-3,000	37,082	34,183	2,899	5,800	37,256	3,000	9,899	34,908		
30+0,000		-11,130	33,796	-5,600	37,097	-3,000	37,266	34,120	3,146	5,800	37,439	3,000	10,017	35,013		
30+10,000		-11,373	33,759	-5,600	37,223	-3,000	37,391	34,102	3,289	5,800	37,559	2,890	9,994	35,148		
31+0,000		-11,681	33,622	-5,600	37,290	-3,000	37,459	34,063	3,396	5,800	37,620	2,780	9,926	35,254		
31+10,000		-12,221	33,271	-5,600	37,300	-3,000	37,468	34,005	3,463	5,800	37,585	2,030	9,898	35,238		
31+10,215	PT	-12,232	33,263	-5,600	37,299	-3,000	37,467	34,003	3,464	5,800	37,584	2,010	9,896	35,239		
32+0,000		-12,519	33,023	-5,600	37,251	-3,000	37,419	33,942	3,477	5,712	37,534	2,010	9,744	35,231		
33+0,000		-12,067	33,052	-5,600	36,978	-3,000	37,146	33,956	3,190	5,668	37,260	2,010	9,420	35,144		
33+14,619	PC	-10,884	33,500	-5,600	36,638	-3,000	36,806	34,082	2,724	5,800	36,922	2,010	8,907	35,236		
34+0,000		-10,531	33,599	-5,600	36,502	-3,000	36,670	34,145	2,525	5,800	36,805	2,330	8,641	35,296		
34+10,000		-10,035	33,716	-5,600	36,287	-3,000	36,455	34,223	2,232	5,800	36,610	2,660	8,203	35,393		
35+0,000		-9,603	33,864	-5,600	36,148	-3,000	36,316	34,345	1,971	5,800	36,490	3,000	7,873	35,493		
35+10,000		-9,281	34,015	-5,600	36,084	-3,000	36,252	34,451	1,801	5,800	36,426	3,000	7,593	35,616		
36+0,000		-8,908	34,276	-5,600	36,097	-3,000	36,265	34,560	1,705	5,800	36,439	3,000	7,253	35,855		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET	BORDO		OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	Cota (m)		Distância (m)	Cota (m)
36+1,078		-8,913	34,279	-5,600	36,102	36,270	34,573	1,697	36,444	5,800	3,000	7,202	35,895			
36+10,000		-9,143	34,207	-5,600	36,184	36,353	34,674	1,679	36,526	5,800	3,000	6,695	36,315			
37+0,000		-9,414	34,191	-5,600	36,348	36,516	34,841	1,675	36,690	5,800	3,000	6,361	36,701			
37+10,000		-10,276	33,869	-5,600	36,601	36,755	34,989	1,766	36,913	5,800	2,730	6,572	38,070			
38+0,000		-11,526	33,365	-5,600	36,931	37,070	36,004	1,066	37,213	5,800	2,460	9,336	41,134			
38+7,536	PT	-13,024	32,659	-5,600	37,223	37,336	36,966	0,370	37,452	5,800	2,010	11,657	43,695			
39+0,000		-11,155	34,348	-5,600	37,666	37,726	39,611	-1,885	37,787	5,784	1,060	15,291	47,678			
40+0,000		-9,414	35,901	-5,600	38,058	38,032	42,491	-4,459	38,005	5,759	-0,470	26,185	55,726			
41+0,000		-8,142	36,742	-5,600	38,052	37,940	43,015	-5,075	37,825	5,734	-2,000	27,652	57,037			
41+0,192	PC	-8,125	36,751	-5,600	38,049	37,937	43,015	-5,078	37,822	5,734	-2,010	27,655	57,038			
41+10,000		-7,218	37,169	-5,600	37,862	37,744	42,479	-4,735	37,623	5,734	-2,110	26,505	55,689			
41+11,491		-7,098	37,212	-5,600	37,825	37,706	42,332	-4,626	37,584	5,735	-2,130	26,276	55,420			
42+0,000		-6,506	37,354	-5,600	37,573	37,448	37,791	-0,343	37,321	5,748	-2,220	24,097	52,964			
42+2,790	PT	-6,234	37,423	-5,600	37,461	37,348	37,412	-0,064	37,176	5,748	-3,000	23,378	52,101			
43+0,000		0,000	0,000	-5,600	36,664	36,624	35,704	0,920	36,456	5,600	-3,000	6,416	37,657			
44+0,000		-12,446	31,893	-5,600	36,072	36,116	33,783	2,333	35,948	5,600	-3,000	6,621	37,354			
45+0,000		-12,974	31,571	-5,600	36,102	36,117	37,648	-1,531	35,949	5,600	-3,000	6,904	37,638			
46+0,000		-6,637	37,857	-5,720	36,555	36,485	38,130	-1,645	36,313	5,720	-3,000	28,154	56,043			
46+0,352																
46+10,356	PC															
46+17,927																
47+0,000																
47+5,499	PT															
48+0,000																
48+1,631	PC															
48+10,000																
49+0,000																
49+0,606																
49+10,000																

RÓTULA DE INTERSEÇÃO COM O TRECHO 04

**RÓTULA DE INTERSEÇÃO COM O TRECHO 04**

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito			
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET			
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	Distância (m)	Cota (m)		
49+13,648		-18,459	32,485	-6,419	40,127	6,970	39,679	38,228	1,451	6,171	39,249	-6,970	24,720	55,094
50+0,000		-19,623	31,857	-6,231	40,399	6,540	39,992	38,486	1,506	6,163	39,589	-6,540	24,282	55,004
50+10,000		-20,286	31,639	-6,091	40,717	6,100	40,345	38,821	1,524	6,140	39,971	-6,100	16,011	50,227
51+0,000		-20,453	31,610	-6,100	40,794	6,000	40,428	38,888	1,540	6,100	40,062	-6,000	15,593	49,939
51+5,665	PT	-20,870	31,643	-6,100	41,104	6,000	40,738	39,169	1,569	6,100	40,372	-6,000	14,847	49,504
51+7,565	PC	-24,412	31,682	-6,100	41,415	6,000	41,049	39,432	1,617	6,100	40,683	-6,000	13,098	48,066
51+10,000		-24,593	31,685	-6,100	41,538	6,000	41,172	39,522	1,650	6,100	40,806	-6,000	12,462	47,553
52+0,000		-25,251	31,720	-6,100	42,012	6,000	41,646	39,932	1,714	6,100	41,280	-6,000	10,619	46,184
52+8,509		-25,409	31,730	-6,100	42,128	6,000	41,762	40,038	1,724	6,100	41,396	-6,000	10,399	46,080
52+10,000		-25,615	31,763	-5,918	42,419	4,470	42,155	40,437	1,718	6,011	41,886	-4,470	9,687	45,947
53+0,000		-25,968	31,882	-5,858	42,814	2,470	42,669	40,933	1,736	5,734	42,503	-2,890	8,365	45,520
53+9,452	PT	-25,965	32,168	-5,690	43,210	0,470	43,183	41,431	1,752	5,581	43,110	-1,310	7,924	45,838
53+12,186	TS	-25,904	32,242	-5,600	43,303	0,000	43,303	41,545	1,758	5,600	43,264	-0,690	7,828	45,878
54+0,000		-25,944	32,321	-5,600	43,408	-0,520	43,437	41,673	1,764	5,600	43,437	0,000	7,617	45,839
54+10,000		-26,170	32,428	-5,698	43,601	-1,690	43,697	41,921	1,776	5,753	43,775	1,340	7,439	45,845
55+0,000		-26,526	32,831	-6,152	43,938	-4,000	44,185	42,355	1,830	5,779	44,416	4,000	7,055	46,077

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito				
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	Distância (m)	Cota (m)	OFFSET	Distância (m)	Cota (m)
		Distância (m)	Cota (m)	Distância (m)	Cota (m)										
59+10,000		-26,551	33,244	-6,419	44,190	-6,660	44,618	1,920	42,698	1,920	45,014	6,660	8,754	48,198	
59+14,937	SC	-26,484	33,329	-6,300	44,310	-7,970	44,812	1,962	42,650	1,962	45,314	7,970	10,489	49,888	
59+18,125		-26,675	33,319	-6,300	44,428	-7,970	44,930	1,995	42,935	1,995	45,432	7,970	11,595	51,112	
60+0,000		-26,793	33,308	-6,300	44,495	-7,970	44,997	2,014	42,983	2,014	45,499	7,970	12,644	52,228	
60+1,313	CS	-26,877	33,298	-6,300	44,541	-7,970	45,043	2,028	43,015	2,028	45,545	7,970	13,361	52,991	
60+10,000		-27,529	33,181	-6,125	44,976	-5,660	45,323	2,077	43,246	2,077	45,662	5,660	23,687	60,654	
61+0,000		-27,686	33,222	-5,671	45,423	-3,010	45,594	2,013	43,581	2,013	45,773	3,010	26,342	63,448	
61+10,000		-28,760	32,650	-5,555	45,645	-3,000	45,812	1,168	44,644	1,168	45,831	0,350	28,081	65,521	
61+11,313	ST	-28,906	32,606	-5,600	45,668	-3,000	45,836	1,020	44,816	1,020	45,836	0,000	28,125	65,656	
62+0,000		-29,352	32,448	-5,600	45,807	-3,000	45,975	-0,416	46,391	-0,416	45,846	-2,310	36,352	70,803	
62+18,701	TS	-7,822	45,040	-5,600	46,137	0,000	46,137	-3,431	49,568	-3,431	45,969	-3,000	39,505	74,079	
63+0,000		-7,807	45,115	-5,671	46,153	0,220	46,141	-3,620	49,761	-3,620	45,974	-3,000	39,663	74,279	
63+10,000		-7,403	45,668	-5,939	46,258	1,940	46,143	-3,970	50,113	-3,970	45,957	-3,330	39,990	74,571	
64+0,000		-6,669	46,194	-5,922	46,308	3,660	46,091	-3,619	49,710	-3,619	45,875	-3,660	41,051	75,234	
64+10,000		-30,767	32,220	-5,928	46,304	5,380	45,985	-2,547	48,532	-2,547	45,651	-5,380	41,284	74,945	
64+18,701	SC	-30,677	32,432	-6,200	46,275	6,880	45,849	-2,363	48,212	-2,363	45,422	-6,880	41,428	74,855	
65+0,000		-30,570	32,480	-6,200	46,252	6,880	45,825	-2,359	48,184	-2,359	45,398	-6,880	41,471	74,874	
65+3,234		-30,380	32,544	-6,200	46,188	6,880	45,762	-2,081	47,823	-2,081	45,335	-6,880	41,630	74,970	
65+7,766	CS	-30,136	32,608	-6,200	46,090	6,880	45,664	-1,885	47,549	-1,885	45,237	-6,880	41,977	75,219	
65+10,000		-29,930	32,575	-6,071	46,006	6,500	45,611	-1,835	47,446	-1,835	45,204	-6,500	48,360	78,413	
66+0,000		-29,455	32,335	-5,814	45,621	4,770	45,344	-1,814	47,158	-1,814	45,046	-4,770	42,215	75,218	
66+10,000		-6,280	45,291	-5,839	45,200	3,050	45,022	-1,590	46,612	-1,590	44,823	-3,350	48,123	78,130	
67+0,000		-28,546	32,081	-5,828	44,751	1,340	44,673	-0,816	45,489	-0,816	44,565	-1,930	41,500	74,644	
67+7,766	ST	-27,278	32,426	-5,600	44,403	0,000	44,403	-0,143	44,546	-0,143	44,342	-1,080	40,837	73,784	
68+0,000		-26,360	32,494	-5,600	43,859	-2,100	43,976	0,556	43,420	0,556	43,967	-0,170	39,980	72,552	
68+1,909	TS	-26,163	32,508	-5,600	43,742	-3,000	43,910	0,596	43,314	0,596	43,910	0,000	39,822	72,336	
68+10,000		-25,668	32,555	-5,598	43,460	-3,000	43,628	0,786	42,842	0,786	43,670	0,710	39,959	71,881	
69+0,000		-24,983	32,790	-5,797	43,105	-3,000	43,279	1,152	42,127	1,152	43,376	1,590	39,791	71,284	
69+10,000		-20,943	33,217	-6,085	42,737	-3,180	42,931	1,450	41,481	1,450	43,079	2,470	6,378	43,223	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		(%)	Distância (m)	Cota (m)		
70+0,000		-20,649	33,204	-6,322	42,370	-3,350	41,058	1,524	5,874	42,779	3,350	6,117	43,002			
70+10,000		-20,145	33,167	-6,372	41,964	-4,230	40,666	1,567	5,801	42,479	4,230	38,730	69,613			
71+0,000		-19,254	33,189	-6,100	41,573	-5,110	40,160	1,725	5,938	42,188	5,110	39,936	70,392			
71+1,909	SC	-19,047	33,188	-6,000	41,501	-5,280	40,062	1,756	6,000	42,135	5,280	40,078	70,418			
71+10,000		-18,565	33,228	-6,000	41,219	-5,280	39,507	2,029	6,000	41,853	5,280	40,443	70,501			
72+0,000		-18,303	33,054	-6,000	40,871	-5,280	38,755	2,433	6,000	41,504	5,280	41,111	70,821			
72+9,182		-17,500	33,269	-6,000	40,551	-5,280	38,151	2,717	6,000	41,184	5,280	49,780	76,080			
72+10,000		-17,389	33,315	-6,000	40,522	-5,280	38,102	2,737	6,000	41,156	5,280	49,775	76,046			
73+0,000		-15,727	34,074	-6,000	40,174	-5,280	37,579	2,912	6,000	40,807	5,280	41,723	70,735			
73+10,000		-15,304	34,008	-6,000	39,825	-5,280	37,250	2,892	6,000	40,459	5,280	14,732	49,576			
73+16,455	CS	-14,996	33,988	-6,000	39,600	-5,280	37,016	2,901	6,000	40,234	5,280	12,266	46,885			
74+0,000		-14,950	33,989	-6,121	39,489	-4,970	36,860	2,934	5,909	40,087	4,970	10,493	45,056			
74+10,000		-14,597	34,010	-6,223	39,208	-4,090	36,503	2,960	5,811	39,701	4,090	9,336	43,610			
75+0,000		-14,234	33,918	-6,074	38,974	-3,210	36,139	3,030	5,838	39,356	3,210	8,020	41,923			
75+10,000		-13,894	33,725	-5,810	38,730	-3,110	35,806	3,104	5,850	39,046	2,330	5,945	39,368			
76+0,000		-13,805	33,416	-5,570	38,521	-3,000	35,506	3,182	5,709	38,771	1,450	6,593	38,566			
76+10,000		-13,585	33,329	-5,494	38,337	-3,000	35,293	3,209	5,617	38,534	0,570	6,862	38,089			
76+16,455	ST	-13,506	33,347	-5,600	38,233	-3,000	35,136	3,265	5,600	38,401	0,000	6,992	37,858			
77+0,000		-13,414	33,360	-5,600	38,184	-3,000	35,041	3,311	5,600	38,335	-0,310	7,095	37,723			
78+0,000		-12,434	33,822	-5,600	37,992	-3,000	34,815	3,345	5,600	38,044	-2,070	8,148	36,731			
79+0,000		-12,469	33,751	-5,600	37,945	-3,000	34,935	3,178	5,600	37,945	-3,000	10,068	35,352			
79+10,000		-11,599	34,361	-5,600	37,976	-3,000	35,046	3,098	5,600	37,976	-3,000	11,465	34,451			
80+0,000		-10,335	35,271	-5,600	38,042	-3,000	35,150	3,060	5,600	38,042	-3,000	13,549	33,128			
81+0,000		-6,467	38,091	-5,600	38,284	-3,000	35,487	2,965	5,600	38,284	-3,000	11,999	34,403			
82+0,000		-12,990	46,445	-5,600	38,670	-3,000	35,881	2,957	5,600	38,813	-0,450	13,033	34,242			
82+3,173	TS	-13,343	46,871	-5,600	38,743	-3,000	35,967	2,944	5,600	38,911	0,000	13,103	34,294			
82+8,297		-13,343	46,988	-5,600	38,860	-3,000	36,106	2,922	5,600	39,028	0,000	13,103	34,411			
82+10,000		-14,188	47,889	-5,584	38,900	-3,000	36,152	2,915	5,767	39,123	0,970	13,485	34,363			
83+0,000		-25,816	56,433	-5,800	39,122	-3,000	36,707	2,590	5,801	39,435	2,390	13,848	34,455			

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET	BORDO		OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	Cota (m)		Distância (m)	Cota (m)
83+10,000		-28,754	59,312	-6,059	39,323	-4,120	37,083	2,489	39,572	37,083	5,820	39,794	3,820	10,568	37,014	
84+0,000		-37,444	65,176	-6,095	39,622	-5,240	37,842	2,099	39,941	37,842	6,057	40,259	5,240	9,368	38,436	
84+10,000		-39,374	67,398	-6,174	39,992	-6,660	38,839	1,564	40,403	38,839	6,071	40,808	6,660	8,726	39,423	
84+13,173	SC	-39,945	68,079	-6,200	40,129	-7,110	39,271	1,299	40,570	39,271	6,200	41,010	7,110	8,481	39,875	
85+0,000		-40,944	69,467	-6,200	40,518	-7,110	40,188	0,771	40,959	40,188	6,200	41,400	7,110	18,235	33,761	
85+0,385		-41,003	69,549	-6,200	40,541	-7,110	40,325	0,657	40,982	40,325	6,200	41,423	7,110	18,311	33,734	
85+7,597	CS	-41,444	70,451	-6,200	41,002	-7,110	41,125	0,318	41,443	41,125	6,200	41,884	7,110	19,068	33,690	
85+10,000		-41,517	70,698	-6,212	41,187	-6,770	41,404	0,203	41,607	41,404	6,137	42,023	6,770	19,212	33,691	
86+0,000		-41,227	71,395	-6,062	42,025	-5,350	41,783	0,566	42,349	41,783	6,047	42,673	5,350	20,154	33,654	
86+10,000		-40,104	71,418	-5,787	42,896	-4,180	43,341	-0,203	43,138	43,341	6,035	43,374	3,920	24,254	33,704	
87+0,000		-38,816	71,122	-5,655	43,756	-3,000	46,026	-2,100	43,926	46,026	5,836	44,072	2,500	7,557	43,309	
87+10,000		-37,793	70,914	-5,612	44,528	-3,000	49,438	-4,742	44,696	49,438	5,665	44,757	1,080	7,999	43,586	
87+17,597	ST	-37,090	70,784	-5,600	45,089	-3,000	49,310	-4,053	45,257	49,310	5,600	45,257	0,000	8,318	43,830	
88+0,000		-36,878	70,746	-5,600	45,262	-3,000	49,080	-3,650	45,430	49,080	5,600	45,411	-0,340	8,398	43,931	
89+0,000		-13,224	54,711	-5,600	46,702	-1,560	46,815	-0,026	46,789	46,815	5,600	46,621	-3,000	28,668	33,717	
89+16,134	TS	-14,750	57,314	-5,600	47,779	0,000	47,978	-0,199	47,779	47,978	5,600	47,611	-3,000	30,255	33,650	
90+0,000		-15,317	58,019	-5,707	48,024	0,370	48,080	-0,077	48,003	48,080	5,558	47,836	-3,000	30,535	33,660	
90+10,000		-26,328	66,442	-5,813	48,633	1,340	48,341	0,214	48,555	48,341	5,617	48,386	-3,000	31,382	33,685	
91+0,000		-25,898	66,610	-5,788	49,205	2,310	48,978	0,093	49,071	48,978	5,801	48,897	-3,000	32,216	33,762	
91+10,000		-14,627	58,974	-5,778	49,740	3,280	49,138	0,413	49,551	49,138	5,960	49,335	-3,620	32,908	33,845	
92+0,000		-14,778	59,474	-5,934	50,245	4,240	49,437	0,557	49,994	49,437	5,949	49,742	-4,240	33,385	33,926	
92+6,134	SC	-14,927	59,850	-6,000	50,538	4,830	49,972	0,276	50,248	49,972	6,000	49,958	-4,830	34,955	33,130	
92+10,000		-14,785	59,861	-6,000	50,691	4,830	49,963	0,438	50,401	49,963	6,000	50,111	-4,830	32,793	34,724	
92+16,223		-14,482	59,793	-6,000	50,926	4,830	50,087	0,549	50,636	50,087	6,000	50,346	-4,830	32,702	35,020	
93+0,000		-14,178	59,625	-6,000	51,061	4,830	50,092	0,680	50,772	50,092	6,000	50,482	-4,830	32,644	35,194	
93+6,311	CS	-13,553	59,222	-6,000	51,284	4,830	50,135	0,859	50,994	50,135	6,000	50,704	-4,830	32,555	35,476	
93+10,000		-13,898	59,732	-5,941	51,390	4,470	50,440	0,684	51,124	50,440	5,998	50,856	-4,470	32,654	35,560	
94+0,000		-14,645	60,825	-5,888	51,683	3,510	51,745	-0,268	51,477	51,745	5,892	51,270	-3,510	31,287	36,815	
94+10,000		-14,868	61,357	-5,875	51,979	2,540	53,277	-1,448	51,829	53,277	5,752	51,642	-3,260	15,376	45,611	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Vermelha	Cota Terreno	Cota Projeto	BORDO		OFFSET	BORDO		OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	Cota (m)		Distância (m)	Cota (m)
95+0,000		-12,111	59,016	-5,753	52,272	1,580	53,564	52,182	-1,382	5,728	52,010	-3,000	15,602	45,813		
95+10,000		-8,050	55,326	-5,678	52,569	0,610	52,249	52,534	0,285	5,587	52,366	-3,000	15,668	46,031		
95+16,311	ST	-5,744	53,046	-5,600	52,757	0,000	51,138	52,757	1,619	5,600	52,589	-3,000	15,641	46,280		
96+0,000		-6,584	52,595	-5,600	52,866	-0,360	50,023	52,887	2,864	5,600	52,719	-3,000	15,543	46,475		
97+0,000		-5,738	53,986	-5,600	53,463	-2,290	52,649	53,592	0,943	5,600	53,424	-3,000	15,447	47,244		
98+0,000		-10,287	59,064	-5,600	53,992	-3,000	55,364	54,160	-1,204	5,600	53,992	-3,000	14,799	48,244		
99+0,000		-12,246	61,319	-5,600	54,288	-3,000	56,362	54,456	-1,906	5,600	54,288	-3,000	13,796	49,209		
100+0,000		-13,241	62,337	-5,600	54,311	-3,000	56,964	54,479	-2,485	5,600	54,311	-3,000	12,416	50,152		
100+15,559	PC	-12,325	61,250	-5,600	54,140	-3,000	56,293	54,308	-1,985	5,600	54,140	-3,000	12,295	50,062		
101+0,000		-12,150	60,996	-5,600	54,061	-3,000	56,075	54,229	-1,846	5,600	54,061	-3,000	12,219	50,033		
101+10,000		-10,030	58,683	-5,600	53,868	-3,000	55,276	54,036	-1,240	5,600	53,868	-3,000	12,134	49,897		
102+0,000		-6,117	53,715	-5,600	53,675	-3,000	52,328	53,843	1,515	5,600	53,675	-3,000	11,993	49,798		
102+10,000		-7,968	52,288	-5,600	53,481	-3,000	50,807	53,649	2,842	5,600	53,481	-3,000	14,539	47,907		
102+18,204		-5,707	53,815	-5,600	53,323	-3,000	51,705	53,491	1,786	5,600	53,323	-3,000	17,568	45,730		
103+0,000		-6,520	54,593	-5,600	53,288	-3,000	52,042	53,456	1,414	5,600	53,288	-3,000	17,268	45,895		
103+10,000		-10,661	58,530	-5,600	53,083	-3,000	54,116	53,251	-0,865	5,600	53,083	-3,000	11,030	49,848		
104+0,000		-14,854	62,492	-5,600	52,854	-3,000	56,000	53,022	-2,978	5,600	52,854	-3,000	10,316	50,095		
104+10,000		-22,546	66,841	-5,600	52,600	-3,000	57,248	52,768	-4,480	5,600	52,632	-2,430	6,137	53,554		
105+0,000		-25,704	69,721	-5,600	52,323	-3,000	58,405	52,491	-5,914	5,600	52,386	-1,860	6,758	53,929		
105+0,849	PT	-25,923	69,916	-5,600	52,298	-3,000	58,488	52,466	-6,022	5,600	52,365	-1,800	6,798	53,949		
106+0,000		-35,674	75,975	-5,600	51,695	-3,000	60,265	51,863	-8,402	5,600	51,843	-0,360	7,567	54,195		
107+0,000		-39,208	78,689	-5,693	50,968	-3,000	60,248	51,139	-9,109	5,693	51,204	1,140	6,316	52,213		
107+11,586	PC	-39,926	78,833	-5,800	50,502	-3,000	59,090	50,676	-8,414	5,800	50,792	2,010	5,872	51,250		
108+0,000		-39,740	78,290	-5,800	50,145	-3,000	58,103	50,319	-7,784	5,800	50,472	2,640	5,932	50,989		
108+10,000		-39,699	77,802	-5,800	49,699	-3,000	56,614	49,873	-6,741	5,800	50,036	2,820	6,035	50,657		
108+19,086		-39,630	77,307	-5,800	49,272	-3,000	55,696	49,446	-6,250	5,800	49,619	2,980	6,157	50,361		
109+0,000		-39,678	77,311	-5,800	49,228	-3,000	55,691	49,402	-6,289	5,800	49,576	3,000	6,169	50,330		
109+10,000		-40,237	77,417	-5,800	48,775	-2,500	55,995	48,920	-7,075	5,800	49,064	2,500	6,311	49,960		
110+0,000		-40,933	77,660	-5,800	48,322	-1,990	56,460	48,437	-8,023	5,800	48,552	1,990	6,477	49,614		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
110+6,586	PT	-41,309	77,789	-5,800	48,075	-0,970	54,870	-6,738	5,800	48,188	0,970	6,415	49,188			
110+19,266	PC	-41,751	77,827	-5,800	47,671	0,970	53,141	-5,526	5,800	47,558	-0,970	6,289	48,432			
111+0,000		-41,768	77,824	-5,800	47,651	1,090	53,112	-5,525	5,800	47,524	-1,090	6,278	48,387			
111+10,000		-41,144	76,917	-5,800	47,368	2,040	52,309	-5,080	5,800	47,130	-2,040	6,107	47,822			
112+0,000		-39,533	75,080	-5,800	47,142	3,000	50,740	-3,772	5,800	46,794	-3,000	5,920	47,300			
112+10,000		-36,434	71,758	-5,800	46,919	3,000	49,010	-2,265	5,800	46,571	-3,000	5,935	46,866			
112+19,636		-27,001	65,255	-5,800	46,759	3,000	46,697	-0,112	5,800	46,411	-3,000	6,371	46,415			
113+0,000		-26,766	65,014	-5,800	46,754	3,000	46,688	-0,108	5,800	46,406	-3,000	6,379	46,405			
113+10,000		-6,516	46,554	-5,800	46,646	3,000	46,335	0,137	5,800	46,298	-3,000	6,404	46,280			
114+0,000		-6,586	46,457	-5,800	46,596	3,000	46,027	0,395	5,800	46,248	-3,000	6,441	46,206			
114+10,000		-11,458	43,159	-5,800	46,546	2,500	45,616	0,784	5,800	46,226	-3,000	6,527	46,127			
114+11,999		-11,458	43,154	-5,800	46,541	2,500	45,595	0,801	5,800	46,222	-3,000	6,527	46,123			
115+0,000		-14,539	41,055	-5,800	46,496	2,010	45,692	0,687	5,800	46,205	-3,000	6,386	46,200			
115+0,006	PT	-14,538	41,055	-5,800	46,496	2,010	45,692	0,687	5,800	46,205	-3,000	6,385	46,200			
116+0,000		-10,260	43,865	-5,800	46,453	2,010	45,565	0,771	5,800	46,162	-3,000	9,025	49,772			
116+0,603	PC	-10,389	43,778	-5,800	46,452	2,010	45,561	0,774	5,800	46,161	-3,000	9,017	49,764			
116+10,000		-11,445	43,087	-5,800	46,465	2,490	45,490	0,831	5,800	46,147	-3,000	8,920	49,653			
117+0,000		-11,569	43,031	-5,800	46,492	3,000	45,260	1,058	5,800	46,144	-3,000	6,442	46,101			
117+10,000		-13,112	42,011	-5,800	46,501	3,000	44,742	1,585	5,800	46,153	-3,000	8,031	45,050			
117+12,127		-13,123	42,007	-5,800	46,504	3,000	44,585	1,745	5,800	46,156	-3,000	8,271	44,894			
118+0,000		-13,068	42,061	-5,800	46,522	3,000	43,820	2,528	5,800	46,174	-3,000	9,474	44,109			
118+10,000		-12,874	42,203	-5,800	46,534	2,640	43,511	2,870	5,800	46,227	-2,640	9,693	44,017			
119+0,000		-12,733	42,321	-5,800	46,558	2,280	43,269	3,157	5,800	46,293	-2,280	9,972	43,897			
119+3,651	PT	-12,731	42,326	-5,800	46,562	2,010	43,253	3,192	5,800	46,328	-2,010	10,073	43,865			
120+0,000		-12,638	42,379	-5,800	46,552	0,010	43,337	3,215	5,800	46,551	-0,010	10,651	43,702			
120+16,456	PC	-12,740	42,334	-5,800	46,575	-2,010	43,577	3,115	5,800	46,808	2,010	10,484	44,071			
121+0,000		-12,733	42,357	-5,800	46,594	-2,280	43,621	3,105	5,800	46,858	2,280	10,353	44,208			
121+10,000		-12,785	42,407	-5,800	46,678	-2,640	43,923	2,909	5,800	46,985	2,640	10,267	44,392			
121+15,714		-12,811	42,443	-5,800	46,732	-2,850	44,064	2,833	5,800	47,062	2,850	9,584	44,925			



Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	Distância (m)	Cota (m)	(%)			
122+0,000		-12,909	42,421	-5,800	46,775	-3,000	46,949	44,226	2,723	5,800	47,123	3,000	8,815	45,498		
122+10,000		-13,067	42,477	-5,800	46,937	-2,340	47,073	44,589	2,484	5,800	47,208	2,340	8,206	45,989		
122+14,973	PT	-13,150	42,503	-5,800	47,017	-2,010	47,134	44,708	2,426	5,800	47,250	2,010	8,047	46,138		
123+0,000		-13,048	42,598	-5,708	47,106	-1,580	47,196	44,893	2,303	5,708	47,286	1,580	7,780	46,290		
124+0,000		-13,601	42,628	-5,790	47,450	0,130	47,443	45,880	1,563	5,790	47,435	-0,130	6,523	47,332		
125+0,000		-14,013	42,705	-5,799	47,796	1,840	47,690	47,081	0,609	5,799	47,583	-1,840	13,998	56,167		
125+1,974	PC	-14,024	42,733	-5,800	47,831	2,010	47,714	47,197	0,517	5,800	47,597	-2,010	14,127	56,309		
125+10,000		-14,105	42,820	-5,823	47,956	2,450	47,813	47,673	0,140	5,823	47,670	-2,450	14,965	57,198		
126+0,000		-14,127	42,955	-5,816	48,111	3,000	47,937	48,228	-0,291	5,816	47,762	-3,000	15,555	57,887		
126+4,454		-14,061	43,037	-5,800	48,159	2,900	47,992	48,444	-0,452	5,800	47,817	-3,000	15,514	57,917		
126+10,000		-14,010	43,111	-5,769	48,219	2,770	48,060	48,628	-0,568	5,769	47,887	-3,000	15,594	58,097		
127+0,000		-13,981	43,180	-5,683	48,327	2,530	48,183	48,754	-0,571	5,683	48,013	-3,000	15,022	57,737		
127+6,933	PT	-14,053	43,131	-5,600	48,382	2,010	48,269	48,792	-0,523	5,600	48,101	-3,000	5,905	48,791		
128+0,000		-14,192	43,145	-5,600	48,488	1,030	48,430	48,556	-0,126	5,600	48,262	-3,000	5,769	48,816		
129+0,000		-13,065	44,059	-5,600	48,651	-0,470	48,677	45,804	2,873	5,600	48,509	-3,000	5,704	48,998		
129+16,097	TS	-13,417	44,050	-5,600	48,876	0,000	48,876	48,502	0,374	5,600	48,708	-3,000	5,712	49,205		
130+0,000		-14,046	43,847	-5,775	48,976	0,920	48,923	48,627	0,296	5,775	48,756	-3,000	5,625	49,191		
130+10,000		-15,112	43,480	-5,928	49,218	3,300	49,023	48,963	0,060	5,820	48,771	-4,340	5,831	49,166		
131+0,000		-15,540	43,458	-6,002	49,432	5,670	49,092	49,068	0,024	6,148	48,743	-5,670	15,188	58,168		
131+6,097	SC	-15,960	43,437	-6,200	49,559	7,110	49,118	49,064	0,054	6,200	48,677	-7,110	21,359	61,131		
131+10,000		-15,944	43,459	-6,200	49,570	7,110	49,129	49,062	0,067	6,200	48,688	-7,110	21,679	61,462		
131+12,052		-15,930	43,472	-6,200	49,573	7,110	49,133	49,052	0,081	6,200	48,692	-7,110	21,911	61,698		
131+18,008	CS	-15,921	43,482	-6,200	49,577	7,110	49,136	48,977	0,159	6,200	48,695	-7,110	23,351	63,141		
132+0,000		-15,721	43,500	-6,085	49,539	6,640	49,135	48,950	0,185	6,116	48,729	-6,640	23,334	63,241		
132+10,000		-12,826	45,081	-5,832	49,358	4,270	49,109	48,810	0,299	5,626	48,849	-4,630	23,324	63,842		
133+0,000		-6,913	48,797	-5,787	49,163	1,900	49,053	48,715	0,338	5,351	48,913	-2,620	23,297	64,155		
133+8,008	ST	-6,679	48,667	-5,600	49,001	0,000	49,002	48,643	0,359	5,600	48,921	-1,430	24,078	64,695		
133+17,662	TS	-11,488	45,271	-5,600	48,811	-2,290	48,939	48,498	0,441	5,600	48,939	0,000	23,574	64,208		
134+0,000		-13,065	44,165	-5,587	48,765	-2,840	48,924	48,460	0,464	5,680	48,944	0,350	23,561	64,120		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		(%)	Distância (m)	Cota (m)		
134+10,000		-12,970	44,221	-5,698	48,684	-3,070	48,859	0,563	48,296	5,849	48,966	1,830	15,784	59,286		
135+0,000		-12,786	44,399	-5,909	48,599	-3,310	48,795	0,851	47,944	5,901	48,990	3,310	6,053	49,274		
135+7,662	SC	-12,557	44,492	-6,000	48,479	-4,440	48,745	1,096	47,649	6,000	49,011	4,440	6,750	48,897		
135+10,000		-12,499	44,516	-6,000	48,463	-4,440	48,730	1,181	47,549	6,000	48,996	4,440	7,005	48,711		
136+0,000		-12,067	44,739	-6,000	48,399	-4,440	48,665	1,122	47,543	6,000	48,932	4,440	7,419	48,371		
136+7,524		-11,722	44,920	-6,000	48,350	-4,440	48,617	1,350	47,267	6,000	48,883	4,440	7,188	48,476		
136+10,000		-11,619	44,973	-6,000	48,334	-4,440	48,601	1,356	47,245	6,000	48,867	4,440	7,093	48,523		
137+0,000		-10,099	45,922	-6,000	48,269	-4,440	48,536	1,006	47,530	6,000	48,802	4,440	6,309	48,982		
137+7,386	CS	-9,222	46,459	-6,000	48,222	-4,440	48,488	0,669	47,819	6,000	48,754	4,440	9,111	52,250		
137+10,000		-8,195	47,147	-5,995	48,228	-4,060	48,471	0,539	47,932	5,939	48,712	4,060	10,384	53,542		
138+0,000		-6,895	47,939	-5,842	48,256	-2,580	48,406	0,318	48,088	5,834	48,557	2,580	14,229	57,337		
138+10,000		-6,041	48,400	-5,644	48,280	-1,100	48,342	-0,228	48,570	5,762	48,405	1,100	22,778	62,716		
138+17,386	ST	-5,634	48,713	-5,600	48,294	0,000	48,294	-1,170	49,464	5,600	48,294	0,000	24,170	64,159		
139+0,000		-5,731	48,815	-5,600	48,299	0,390	48,277	-1,641	49,918	5,600	48,255	-0,390	24,600	64,551		
139+9,505	PC	-5,941	49,054	-5,600	48,328	2,010	48,216	-2,670	50,886	5,600	48,103	-2,010	26,096	65,894		
139+10,000		-5,952	49,064	-5,600	48,326	2,040	48,212	-2,763	50,975	5,600	48,097	-2,060	26,167	65,959		
140+0,000		-6,238	49,313	-5,600	48,290	2,540	48,148	-3,772	51,920	5,600	47,980	-3,000	27,656	67,331		
140+9,143		-6,176	49,190	-5,600	48,228	2,500	48,089	-2,522	50,611	5,600	47,920	-3,000	26,698	66,313		
140+10,000		-6,159	49,167	-5,600	48,223	2,490	48,083	-2,436	50,519	5,600	47,915	-3,000	26,611	66,221		
141+0,000		-6,028	48,968	-5,600	48,155	2,450	48,018	-1,559	49,577	5,600	47,850	-3,000	25,602	65,147		
141+8,781	PT	-5,794	48,653	-5,600	48,074	2,010	47,962	-0,930	48,892	5,600	47,793	-3,000	24,130	63,619		
142+0,000		-5,707	48,463	-5,600	47,970	1,450	47,889	-0,721	48,610	5,600	47,721	-3,000	15,521	58,027		
143+0,000		-9,135	45,853	-5,600	47,825	0,450	47,799	-0,490	48,289	5,600	47,631	-3,000	12,718	55,135		
144+0,000		-9,831	45,410	-5,600	47,846	1,000	47,790	-0,574	48,364	5,600	47,622	-3,000	12,322	54,729		
145+0,000		-5,874	48,617	-5,600	47,958	1,750	47,860	-0,807	48,667	5,600	47,692	-3,000	21,538	60,925		
145+6,942	PC	-6,001	48,801	-5,600	48,016	2,010	47,903	-0,763	48,686	5,600	47,735	-3,000	23,241	62,671		
145+10,000		-5,674	48,503	-5,600	48,044	2,130	47,925	-0,761	48,686	5,600	47,757	-3,000	23,573	63,025		
146+0,000		-5,644	48,506	-5,600	48,150	2,500	48,010	-0,678	48,688	5,600	47,842	-3,000	24,710	64,247		
146+10,000		-5,758	48,532	-5,600	48,252	2,630	48,105	-0,281	48,386	5,600	47,944	-2,880	23,470	63,109		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
146+13,351		-5,904	48,468	-5,600	48,286	2,670	48,277	-0,140	5,600	47,978	-2,830	22,997	62,670			
147+0,000		-6,917	47,861	-5,600	48,354	2,750	48,054	0,146	5,600	48,046	-2,750	21,929	61,671			
147+10,000		-8,638	46,788	-5,600	48,428	2,380	47,580	0,715	5,600	48,162	-2,380	13,270	56,217			
147+19,759	PT	-10,749	45,453	-5,600	48,500	2,010	47,134	1,254	5,600	48,275	-2,010	10,026	53,086			
148+0,000		-10,759	45,446	-5,600	48,500	1,960	47,125	1,265	5,600	48,280	-1,960	9,906	52,971			
148+10,259	TS	-10,826	45,389	-5,600	48,488	0,000	46,679	1,809	5,600	48,488	0,000	5,954	48,636			
149+0,000		-10,573	45,554	-5,504	48,548	-0,590	46,374	2,206	5,791	48,614	0,590	8,153	47,425			
149+10,000		-10,784	45,525	-5,580	48,608	-1,190	46,160	2,515	5,815	48,745	1,190	8,956	47,035			
150+0,000		-12,414	44,606	-5,746	48,667	-1,800	45,939	2,831	5,750	48,874	1,800	9,906	46,488			
150+6,997		-12,414	44,673	-5,746	48,733	-1,800	45,912	2,925	5,750	48,940	1,800	9,906	46,554			
150+10,000		-11,089	45,657	-5,912	48,723	-2,400	45,900	2,965	5,683	49,002	2,400	10,620	46,095			
151+0,000		-12,104	45,092	-5,994	48,780	-3,010	45,844	3,116	5,701	49,132	3,010	10,015	46,641			
151+10,000		-12,104	45,090	-5,905	48,837	-3,610	45,815	3,236	5,892	49,264	3,610	10,030	46,890			
151+10,259	SC	-12,101	45,090	-5,900	48,839	-3,630	45,814	3,239	5,900	49,267	3,630	10,049	46,886			
152+0,000		-12,307	45,032	-5,900	48,918	-3,630	45,775	3,358	5,900	49,347	3,630	10,860	46,425			
152+10,000		-12,283	45,122	-5,900	48,992	-3,630	45,778	3,428	5,900	49,420	3,630	10,023	47,057			
152+18,989		-12,260	45,195	-5,900	49,050	-3,630	45,769	3,495	5,900	49,479	3,630	9,038	47,771			
153+0,000		-12,258	45,203	-5,900	49,056	-3,630	45,767	3,504	5,900	49,485	3,630	8,959	47,830			
153+10,000		-12,269	45,251	-5,900	49,112	-3,630	45,927	3,399	5,900	49,541	3,630	8,713	48,050			
154+0,000		-12,295	45,281	-5,900	49,159	-3,630	46,120	3,254	5,900	49,588	3,630	8,377	48,322			
154+7,718	CS	-12,217	45,363	-5,900	49,190	-3,630	46,220	3,184	5,900	49,618	3,630	8,288	48,412			
154+10,000		-12,232	45,386	-5,929	49,204	-3,510	46,248	3,164	5,849	49,616	3,490	8,245	48,404			
155+0,000		-12,175	45,488	-5,933	49,264	-3,000	46,372	3,070	5,749	49,608	2,890	8,441	48,198			
155+10,000		-12,095	45,483	-5,803	49,293	-3,000	46,497	2,970	5,752	49,599	2,290	7,855	48,602			
156+0,000		-11,767	45,614	-5,624	49,324	-3,000	46,622	2,871	5,861	49,591	1,680	7,310	49,010			
156+10,000		-11,512	45,719	-5,483	49,354	-3,000	46,751	2,767	5,899	49,581	1,080	6,292	49,705			
157+0,000		-11,307	45,873	-5,469	49,379	-3,000	46,894	2,650	5,810	49,571	0,470	7,690	51,836			
157+7,718	ST	-11,516	45,836	-5,600	49,395	-3,000	47,051	2,512	5,600	49,563	0,000	8,681	53,029			
158+0,000		-11,542	45,850	-5,600	49,426	-3,000	47,304	2,290	5,600	49,553	-0,740	10,862	55,200			

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
159+0,000		-11,520	45,915	-5,600	49,477	-3,000	49,645	47,134	2,511	5,600	49,629	-0,280	10,564	54,978		
159+7,344	TS	-11,554	45,912	-5,600	49,496	-3,000	49,664	47,022	2,642	5,600	49,664	0,000	6,091	49,721		
159+10,000		-11,570	45,910	-5,604	49,502	-3,000	49,671	46,982	2,689	5,611	49,676	0,100	6,284	49,613		
160+0,000		-11,655	45,900	-5,636	49,527	-3,000	49,696	46,836	2,860	5,633	49,723	0,480	8,554	48,161		
160+10,000		-11,883	45,796	-5,673	49,551	-3,000	49,722	46,764	2,958	5,647	49,770	0,850	9,071	47,872		
161+0,000		-12,062	45,708	-5,682	49,576	-3,000	49,747	46,714	3,033	5,684	49,817	1,230	11,185	46,534		
161+10,000		-11,702	45,974	-5,688	49,599	-3,000	49,770	46,743	3,027	5,726	49,862	1,600	13,042	45,370		
162+0,000		-12,076	45,772	-5,732	49,616	-3,000	49,788	46,855	2,933	5,731	49,901	1,980	11,993	46,112		
162+10,000		-12,032	45,847	-5,784	49,627	-3,000	49,801	46,944	2,857	5,728	49,936	2,360	11,914	46,197		
163+0,000		-11,921	45,947	-5,812	49,634	-3,000	49,809	46,987	2,822	5,750	49,966	2,730	11,965	46,207		
163+7,344	SC	-11,903	45,954	-5,800	49,637	-3,000	49,811	46,955	2,856	5,800	49,985	3,000	11,624	46,488		
163+10,000		-11,902	45,955	-5,800	49,638	-3,000	49,812	46,942	2,870	5,800	49,986	3,000	11,459	46,598		
164+0,000		-11,833	45,999	-5,800	49,636	-3,000	49,810	46,952	2,858	5,800	49,984	3,000	10,809	47,029		
164+3,319		-11,773	46,037	-5,800	49,634	-3,000	49,808	46,975	2,833	5,800	49,982	3,000	10,729	47,081		
164+10,000		-11,654	46,111	-5,800	49,629	-3,000	49,803	47,021	2,782	5,800	49,977	3,000	10,532	47,207		
164+19,294	CS	-11,576	46,152	-5,800	49,618	-3,000	49,792	47,153	2,639	5,800	49,966	3,000	10,040	47,524		
165+0,000		-11,581	46,148	-5,801	49,617	-3,000	49,791	47,173	2,618	5,794	49,963	2,970	9,997	47,546		
165+10,000		-11,635	46,089	-5,787	49,603	-3,000	49,776	47,441	2,335	5,748	49,926	2,590	9,422	47,861		
166+0,000		-11,554	46,107	-5,753	49,589	-3,000	49,762	47,710	2,052	5,745	49,889	2,220	8,800	48,238		
166+10,000		-11,307	46,244	-5,732	49,576	-3,000	49,748	47,971	1,777	5,755	49,854	1,850	8,350	48,509		
167+0,000		-11,134	46,355	-5,748	49,561	-3,000	49,733	48,250	1,483	5,740	49,817	1,470	7,965	48,719		
167+10,000		-11,063	46,362	-5,707	49,547	-3,000	49,719	48,597	1,122	5,673	49,781	1,090	6,561	49,574		
168+0,000		-10,985	46,362	-5,648	49,535	-3,000	49,704	48,983	0,721	5,647	49,745	0,720	5,669	50,152		
168+10,000		-8,243	48,159	-5,603	49,534	-2,770	49,690	49,444	0,246	5,632	49,709	0,350	7,841	52,303		
168+19,294	ST	-5,796	49,787	-5,600	49,533	-2,560	49,676	49,883	-0,207	5,600	49,676	0,000	10,072	54,533		
169+0,000		-5,742	49,824	-5,600	49,534	-2,530	49,675	49,918	-0,243	5,600	49,674	-0,030	10,258	54,717		
170+0,000		-6,454	50,799	-5,600	49,561	-1,530	49,646	50,905	-1,259	5,600	49,603	-0,780	14,640	59,027		
171+0,000		-7,112	51,485	-5,600	49,588	-0,530	49,618	51,823	-2,205	5,600	49,532	-1,530	22,169	63,396		
171+10,550	TS	-7,410	51,797	-5,600	49,602	0,000	49,602	52,093	-2,491	5,600	49,495	-1,920	22,461	63,650		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Vermelha	Cota Terreno	Cota Projeto	BORDO		OFFSET	BORDO		OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	Cota (m)		Distância (m)	Cota (m)
172+0,000		-8,829	53,154	-5,676	49,615	0,470	49,589	-2,773	52,362	49,589	5,629	49,460	-2,280	22,729	63,855	
172+10,000		-9,547	53,880	-5,682	49,629	0,970	49,574	-3,059	52,633	49,574	5,728	49,423	-2,640	23,097	64,087	
173+0,000		-10,118	54,455	-5,692	49,643	1,470	49,560	-3,291	52,851	49,560	5,814	49,385	-3,000	23,593	64,459	
173+10,000		-10,456	54,710	-5,790	49,659	1,970	49,545	-3,452	52,997	49,545	5,805	49,371	-3,000	23,836	64,697	
173+10,550	SC	-10,478	54,724	-5,800	49,660	2,000	49,545	-3,460	53,005	49,545	5,800	49,370	-3,000	23,846	64,711	
174+0,000		-10,389	54,648	-5,800	49,674	2,470	49,531	-3,460	52,991	49,531	5,800	49,357	-3,000	24,018	64,870	
174+10,000		-10,101	54,374	-5,800	49,689	2,970	49,516	-3,406	52,922	49,516	5,800	49,342	-3,000	24,098	64,935	
174+16,266		-9,581	53,848	-5,800	49,681	3,000	49,507	-3,326	52,833	49,507	5,800	49,333	-3,000	23,309	64,138	
175+0,000		-9,006	53,267	-5,800	49,676	3,000	49,502	-3,241	52,743	49,502	5,800	49,328	-3,000	22,835	63,658	
175+10,000		-7,572	51,795	-5,800	49,638	2,600	49,488	-2,989	52,477	49,488	5,800	49,313	-3,000	21,734	62,543	
176+0,000		-6,614	50,794	-5,800	49,595	2,100	49,473	-2,617	52,090	49,473	5,800	49,299	-3,000	13,827	57,711	
176+1,983	CS	-6,506	50,677	-5,800	49,586	2,000	49,470	-2,532	52,002	49,470	5,800	49,296	-3,000	8,992	52,874	
176+10,000		-6,066	50,301	-5,700	49,550	1,600	49,459	-2,186	51,645	49,459	5,777	49,285	-3,000	7,552	51,445	
177+0,000		-5,860	50,079	-5,672	49,507	1,100	49,444	-1,745	51,189	49,444	5,681	49,274	-3,000	7,148	51,126	
177+10,000		-6,217	49,487	-5,675	49,464	0,600	49,430	-1,299	50,729	49,430	5,588	49,262	-3,000	6,634	50,693	
178+0,000		-6,380	49,302	-5,624	49,421	0,100	49,415	-1,058	50,473	49,415	5,583	49,248	-3,000	6,459	50,509	
178+1,983	ST	-6,572	49,149	-5,600	49,412	0,000	49,413	-1,005	50,418	49,413	5,600	49,244	-3,000	6,452	50,482	
179+0,000		-6,490	49,178	-5,600	49,386	0,000	49,386	-0,635	50,021	49,386	5,600	49,218	-3,000	6,141	50,145	
179+2,114	TS	-6,383	49,247	-5,600	49,383	0,000	49,383	-0,614	49,997	49,383	5,600	49,215	-3,000	6,114	50,115	
179+10,000		-6,340	49,297	-5,600	49,405	0,590	49,372	-0,541	49,913	49,372	5,600	49,204	-3,000	6,015	50,004	
180+0,000		-6,289	49,370	-5,600	49,444	1,340	49,369	-0,410	49,779	49,369	5,600	49,201	-3,000	6,055	50,041	
180+10,000		-6,459	49,318	-5,600	49,505	2,090	49,388	-0,265	49,653	49,388	5,600	49,220	-3,000	6,086	50,091	
181+0,000		-7,180	48,921	-5,600	49,589	2,840	49,430	-0,103	49,533	49,430	5,600	49,262	-3,000	5,880	49,927	
181+2,114	SC	-7,636	48,847	-5,900	49,619	3,000	49,442	-0,085	49,527	49,442	5,900	49,265	-3,000	6,114	49,864	
181+10,000		-7,427	49,039	-5,900	49,672	3,000	49,495	-0,099	49,594	49,495	5,900	49,318	-3,000	5,941	49,743	
182+0,000		-7,471	49,097	-5,900	49,759	3,000	49,582	-0,180	49,762	49,582	5,900	49,405	-3,000	5,948	49,758	
182+10,000		-7,830	48,967	-5,900	49,869	3,000	49,692	-0,198	49,890	49,692	5,900	49,515	-3,000	6,305	49,630	
183+0,000		-8,431	48,699	-5,900	50,001	3,000	49,824	-0,172	49,996	49,824	5,900	49,647	-3,000	6,168	50,301	
183+10,000		-7,105	49,738	-5,900	50,156	3,000	49,979	-0,147	50,126	49,979	5,900	49,802	-3,000	6,542	50,829	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito			
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET			
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)	
183+18,713		-6,750	50,128	-5,900	50,310	3,000	50,133	50,289	-0,156	5,900	49,956	-3,000	6,611	51,052
184+0,000		-6,862	50,078	-5,900	50,334	3,000	50,157	50,314	-0,157	5,900	49,980	-3,000	6,681	51,145
184+10,000		-8,336	49,295	-5,900	50,534	3,000	50,357	50,458	-0,101	5,900	50,180	-3,000	7,685	52,350
185+0,000		-9,684	48,608	-5,900	50,745	3,000	50,568	50,482	0,086	5,900	50,391	-3,000	6,019	50,697
185+10,000		-10,185	48,485	-5,900	50,957	3,000	50,780	50,502	0,278	5,900	50,603	-3,000	6,259	50,749
186+0,000		-10,615	48,410	-5,900	51,168	3,000	50,991	50,582	0,409	5,900	50,814	-3,000	6,515	50,789
186+10,000		-10,806	48,494	-5,900	51,380	3,000	51,203	50,627	0,576	5,900	51,026	-3,000	6,798	50,812
186+15,312	CS	-10,831	48,590	-5,900	51,492	3,000	51,315	50,611	0,704	5,900	51,138	-3,000	6,995	50,793
187+0,000		-10,775	48,645	-5,813	51,568	2,650	51,414	50,606	0,808	5,919	51,257	-2,650	7,123	50,840
187+10,000		-11,014	48,599	-5,732	51,735	1,900	51,626	50,563	1,063	5,855	51,489	-2,320	7,335	50,888
188+0,000		-10,980	48,778	-5,716	51,903	1,150	51,837	50,432	1,405	5,722	51,723	-2,000	7,431	50,968
188+10,000		-10,930	48,949	-5,669	52,071	0,400	52,049	50,233	1,816	5,614	51,953	-1,700	7,628	50,996
188+15,312	ST	-11,142	48,849	-5,600	52,159	0,000	52,159	50,111	2,048	5,600	52,073	-1,540	7,790	50,998
189+0,000		-11,525	48,669	-5,600	52,234	-0,350	52,253	50,055	2,198	5,600	52,175	-1,400	7,933	51,005
190+0,000		-11,764	48,794	-5,600	52,518	-1,850	52,622	50,015	2,607	5,600	52,577	-0,800	8,895	50,766
191+0,000		-12,071	48,840	-5,600	52,768	-3,000	52,936	49,967	2,969	5,600	52,925	-0,200	10,337	50,152
191+6,734	TS	-12,247	48,816	-5,600	52,862	-3,000	53,030	49,988	3,042	5,600	53,030	0,000	11,537	49,457
191+7,000		-12,247	48,819	-5,600	52,866	-3,000	53,034	49,990	3,044	5,600	53,034	0,000	11,537	49,461
191+10,000		-12,226	48,873	-5,600	52,905	-3,000	53,073	50,005	3,068	5,600	53,079	0,100	12,080	49,144
192+0,000		-12,144	49,051	-5,600	53,029	-3,000	53,197	50,043	3,154	5,600	53,219	0,400	12,346	49,107
192+10,000		-10,973	49,942	-5,600	53,138	-3,000	53,307	50,131	3,176	5,600	53,346	0,700	12,373	49,215
193+0,000		-9,778	50,841	-5,600	53,241	-3,000	53,410	50,239	3,171	5,600	53,465	1,000	12,411	49,310
193+10,000		-8,337	51,905	-5,600	53,345	-3,000	53,513	50,397	3,116	5,600	53,585	1,300	12,378	49,452
194+0,000		-8,548	51,868	-5,600	53,448	-3,000	53,616	50,551	3,065	5,600	53,705	1,600	12,311	49,616
194+10,000		-8,505	51,999	-5,600	53,551	-3,000	53,719	50,709	3,010	5,600	53,825	1,900	12,617	49,532
195+0,000		-8,378	52,187	-5,600	53,654	-3,000	53,822	50,899	2,923	5,600	53,945	2,200	12,673	49,615
195+10,000		-8,139	52,449	-5,600	53,757	-3,000	53,925	51,157	2,768	5,600	54,065	2,500	12,745	49,687
196+0,000		-7,276	53,127	-5,600	53,860	-3,000	54,028	51,400	2,628	5,600	54,185	2,800	12,315	50,093
196+6,734	SC	-6,519	53,702	-5,600	53,929	-3,000	54,097	51,567	2,530	5,600	54,265	3,000	11,508	50,712

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
196+10,000		-6,213	53,939	-5,600	53,963	-3,000	54,131	2,482	51,649	2,482	54,299	3,000	11,430	50,797		
197+0,000		-5,933	54,784	-5,600	54,066	-3,000	54,234	2,349	51,885	2,349	54,402	3,000	10,694	51,391		
197+2,247		-6,077	54,951	-5,600	54,089	-3,000	54,257	2,353	51,904	2,353	54,425	3,000	10,563	51,502		
197+10,000		-6,618	55,572	-5,600	54,169	-3,000	54,337	2,144	52,193	2,144	54,505	3,000	10,398	51,691		
197+17,761	CS	-7,341	56,375	-5,600	54,249	-3,000	54,417	2,004	52,413	2,004	54,585	3,000	10,482	51,715		
198+0,000		-7,099	56,156	-5,600	54,272	-3,000	54,440	2,038	52,402	2,038	54,604	2,930	10,494	51,726		
198+10,000		-6,386	55,546	-5,600	54,375	-3,000	54,543	2,188	52,355	2,188	54,690	2,630	10,723	51,660		
199+0,000		-6,023	54,581	-5,600	54,478	-3,000	54,646	2,330	52,316	2,330	54,776	2,330	10,942	51,600		
199+10,000		-7,258	53,861	-5,600	54,581	-3,000	54,749	2,504	52,245	2,504	54,863	2,030	11,244	51,485		
200+0,000		-8,664	53,026	-5,600	54,684	-3,000	54,852	2,659	52,193	2,659	54,949	1,730	11,535	51,378		
200+10,000		-10,301	52,038	-5,600	54,787	-3,000	54,955	3,230	51,725	3,230	55,035	1,430	11,874	51,238		
201+0,000		-11,140	51,582	-5,600	54,890	-3,000	55,058	2,787	52,271	2,787	55,121	1,130	12,215	51,096		
201+10,000		-10,749	51,945	-5,600	54,993	-3,000	55,161	2,837	52,324	2,837	55,208	0,830	12,391	51,065		
202+0,000		-10,425	52,264	-5,600	55,096	-3,000	55,264	2,878	52,386	2,878	55,294	0,530	12,566	51,035		
202+10,000		-10,174	52,535	-5,600	55,199	-3,000	55,367	2,905	52,462	2,905	55,380	0,230	12,143	51,404		
202+17,761	ST	-10,481	52,410	-5,600	55,279	-3,000	55,447	2,917	52,530	2,917	55,447	0,000	11,773	51,717		
203+0,000		-10,637	52,329	-5,600	55,302	-3,000	55,470	2,896	52,574	2,896	55,466	-0,070	11,742	51,757		
204+0,000		-10,550	52,541	-5,600	55,456	-3,000	55,624	2,714	52,910	2,714	55,586	-0,670	11,377	52,120		
205+0,000		-10,241	52,915	-5,600	55,624	-3,000	55,792	2,594	53,198	2,594	55,721	-1,270	11,094	52,443		
206+0,000		-10,313	53,217	-5,600	55,974	-1,630	56,065	2,500	53,565	2,500	55,960	-1,870	10,201	53,278		
207+0,000		-10,299	53,704	-5,600	56,451	-0,130	56,459	2,295	54,164	2,295	56,320	-2,470	8,330	54,885		
207+1,757	TS	-10,295	53,754	-5,600	56,499	0,000	56,499	2,271	54,228	2,271	56,331	-3,000	8,036	55,092		
207+10,000		-10,333	54,011	-5,668	56,736	0,620	56,701	2,108	54,593	2,108	56,532	-3,000	6,798	56,126		
208+0,000		-10,387	54,305	-5,690	57,050	1,370	56,973	1,421	55,552	1,421	56,802	-3,000	6,070	57,570		
208+10,000		-10,395	54,654	-5,706	57,395	2,120	57,274	0,391	56,883	0,391	57,101	-3,000	8,442	60,156		
209+0,000		-11,113	54,600	-5,777	57,772	2,870	57,606	-0,297	57,903	-0,297	57,432	-3,000	10,126	62,139		
209+1,757	SC	-10,986	54,770	-5,800	57,842	3,000	57,668	-0,399	58,067	-0,399	57,494	-3,000	10,374	62,453		
209+10,000		-10,459	55,422	-5,800	58,142	3,000	57,968	-0,894	58,862	-0,894	57,794	-3,000	11,611	63,990		
210+0,000		-10,430	55,833	-5,800	58,534	3,000	58,360	-1,173	59,533	-1,173	58,186	-3,000	12,672	65,443		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
210+10,000		-10,535	56,185	-5,800	58,956	3,000	58,783	60,276	-1,493	5,800	58,608	-3,000	13,565	66,759		
211+0,000		-10,746	56,496	-5,800	59,409	3,000	59,235	61,134	-1,899	5,800	59,061	-3,000	14,706	68,352		
211+10,000		-10,876	56,892	-5,800	59,891	3,000	59,717	61,970	-2,253	5,800	59,543	-3,000	21,319	72,357		
212+0,000		-10,753	57,486	-5,800	60,403	3,000	60,229	62,993	-2,764	5,800	60,055	-3,000	21,926	73,476		
212+10,000		-10,668	58,085	-5,800	60,945	3,000	60,771	64,065	-3,294	5,800	60,597	-3,000	22,583	74,675		
212+14,974		-10,532	58,457	-5,800	61,226	3,000	61,052	64,478	-3,426	5,800	60,878	-3,000	22,715	75,088		
213+0,000		-10,406	58,832	-5,800	61,518	3,000	61,344	64,939	-3,595	5,800	61,170	-3,000	22,642	75,307		
213+10,000		-10,194	59,575	-5,800	62,120	3,000	61,946	65,753	-3,807	5,800	61,772	-3,000	22,198	75,465		
214+0,000		-10,025	60,306	-5,800	62,737	3,000	62,563	66,535	-3,972	5,800	62,389	-3,000	21,904	75,788		
214+10,000		-9,804	61,070	-5,800	63,355	3,000	63,181	66,781	-3,600	5,800	63,007	-3,000	15,795	73,387		
215+0,000		-9,537	61,866	-5,800	63,972	3,000	63,798	65,081	-1,283	5,800	63,624	-3,000	14,436	72,645		
215+10,000		-9,288	62,649	-5,800	64,590	3,000	64,416	63,598	0,818	5,800	64,242	-3,000	13,125	71,952		
216+0,000		-9,487	63,134	-5,800	65,207	3,000	65,033	63,516	1,517	5,800	64,859	-3,000	12,024	71,468		
216+8,190	CS	-15,162	59,856	-5,800	65,713	3,000	65,539	64,057	1,482	5,800	65,365	-3,000	11,294	71,244		
216+10,000		-15,529	59,698	-5,775	65,816	2,860	65,650	64,171	1,479	5,831	65,483	-2,860	11,187	71,225		
217+0,000		-17,229	59,106	-5,727	66,389	2,110	66,268	64,798	1,470	5,919	66,143	-2,110	10,603	71,212		
217+10,000		-17,477	59,551	-5,781	66,964	1,360	66,885	65,419	1,466	5,911	66,805	-1,360	10,426	71,704		
218+0,000		-17,625	60,089	-5,873	67,538	0,610	67,503	66,065	1,438	5,870	67,467	-0,610	10,196	72,178		
218+8,190	ST	-17,706	60,544	-5,933	68,008	0,000	68,008	66,658	1,350	5,856	68,008	0,000	10,582	73,120		
219+0,000		-15,232	62,883	-5,940	68,692	-0,760	68,737	67,522	1,215	5,922	68,782	0,760	11,311	74,556		
219+1,232	PC	-14,326	63,554	-5,935	68,763	-0,840	68,813	67,628	1,185	5,935	68,863	0,840	11,486	74,799		
219+8,022		-10,770	66,344	-5,935	69,183	-0,840	69,233	68,213	1,020	5,935	69,282	0,840	12,386	76,119		
219+10,000		-9,842	67,085	-5,935	69,305	-0,840	69,355	68,384	0,971	5,935	69,404	0,840	12,575	76,429		
219+14,813	PT	-8,438	68,318	-5,935	69,602	-0,840	69,652	68,800	0,852	5,935	69,702	0,840	12,888	77,040		
220+0,000		-7,561	69,224	-5,908	69,941	-0,530	69,972	69,288	0,684	5,908	70,003	0,530	13,105	77,585		
221+0,000		-6,297	71,321	-5,833	71,246	0,670	71,207	71,288	-0,081	5,833	71,168	-0,670	14,119	79,839		
222+0,000		-6,183	73,292	-5,801	72,525	1,870	72,416	73,156	-0,740	5,801	72,308	-1,870	15,379	82,271		
222+2,271	PC	-6,218	73,470	-5,800	72,667	2,010	72,550	73,343	-0,793	5,800	72,434	-2,010	15,587	82,605		
222+10,000		-6,356	74,084	-5,800	73,144	2,440	73,002	74,285	-1,283	5,800	72,860	-2,440	21,351	85,707		



Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
223+0,000		-6,489	74,824	-5,800	73,749	3,000	73,575	-2,187	75,762	-1,684	76,903	5,800	73,401	-3,000	21,821	86,717
223+10,000		-6,636	75,531	-5,800	74,310	3,000	74,136	-2,569	76,705	-1,788	77,530	5,800	73,962	-3,000	22,098	87,555
224+0,000		-6,705	76,148	-5,800	74,858	3,000	74,684	-1,509	76,193	-1,880	78,132	5,800	74,510	-3,000	21,744	87,748
224+3,500		-6,877	76,508	-5,800	75,046	3,000	74,873	-1,570	76,443	-1,800	78,549	5,800	74,698	-3,000	21,613	87,806
224+10,000		-7,119	77,097	-5,800	75,393	3,000	75,219	-1,684	76,903	-1,760	78,741	5,800	75,045	-3,000	21,404	87,944
225+0,000		-6,788	77,289	-5,800	75,916	3,000	75,742	-1,788	77,530	-1,698	79,080	5,800	75,568	-3,000	15,557	85,709
225+10,000		-6,153	77,122	-5,800	76,384	2,290	76,252	-1,880	78,132	-1,632	79,363	5,800	76,119	-2,290	14,429	85,133
226+0,000		-12,317	72,880	-5,800	76,840	1,570	76,749	-1,800	78,549	-1,517	79,739	5,800	76,658	-1,570	13,033	84,276
226+4,730	PT	-13,757	72,119	-5,800	77,039	0,990	76,981	-1,760	78,741	-1,698	79,080	5,800	76,924	-0,990	12,421	83,930
226+12,892	TS	-17,098	70,177	-5,712	77,382	0,000	77,382	-1,698	79,080	-1,517	79,739	5,711	77,382	0,000	11,688	83,744
227+0,000		-18,374	69,580	-5,600	77,711	-0,360	77,731	-1,632	79,363	-1,632	79,363	5,600	77,751	0,360	11,174	83,710
227+10,000		-31,337	63,491	-5,600	78,174	-0,860	78,222	-1,517	79,739	-1,517	79,739	5,600	78,270	0,860	10,469	83,524
228+0,000		-17,988	70,785	-5,600	78,658	-1,360	78,734	-1,335	80,069	-1,335	80,069	5,600	78,810	1,360	11,033	84,628
228+10,000		-14,987	73,311	-5,600	79,183	-1,860	79,288	-1,145	80,433	-1,145	80,433	5,600	79,392	1,860	11,748	85,925
229+0,000		-7,056	79,165	-5,600	79,751	-2,360	79,883	-0,914	80,797	-0,914	80,797	5,600	80,015	2,360	12,684	87,484
229+10,000		-5,942	81,086	-5,600	80,359	-2,860	80,519	-0,587	81,106	-0,587	81,106	5,600	80,679	2,860	13,760	89,224
229+12,892	SC	-6,024	81,353	-5,600	80,543	-3,000	80,711	-0,485	81,196	-0,485	81,196	5,600	80,879	3,000	14,025	89,689
230+0,000		-5,706	81,521	-5,600	81,030	-3,000	81,198	-0,256	81,454	-0,256	81,454	5,600	81,366	3,000	14,805	90,956
230+10,000		-5,954	81,899	-5,600	81,750	-3,000	81,918	-0,249	82,167	-0,249	82,167	5,600	82,086	3,000	21,304	95,084
231+0,000		-6,422	82,348	-5,600	82,511	-3,000	82,679	-1,182	83,861	-1,182	83,861	5,600	82,847	3,000	22,031	96,573
231+10,000		-6,876	82,849	-5,600	83,314	-3,000	83,482	-1,516	84,998	-1,516	84,998	5,600	83,650	3,000	22,748	98,093
232+0,000		-7,404	83,341	-5,600	84,159	-3,000	84,327	-1,655	85,982	-1,655	85,982	5,600	84,495	3,000	22,965	99,155
232+7,083		-7,833	83,679	-5,600	84,782	-3,000	84,950	-2,139	87,089	-2,139	87,089	5,600	85,118	3,000	22,526	99,339
232+10,000		-8,025	83,814	-5,600	85,045	-3,000	85,213	-2,371	87,584	-2,371	87,584	5,600	85,381	3,000	22,309	99,385
233+0,000		-8,388	84,499	-5,600	85,973	-3,000	86,141	-2,109	88,250	-2,109	88,250	5,600	86,309	3,000	15,577	96,671
233+10,000		-8,642	85,300	-5,600	86,943	-3,000	87,111	-1,088	88,199	-1,088	88,199	5,600	87,279	3,000	15,338	97,402
234+0,000		-9,443	85,756	-5,600	87,933	-3,000	88,101	-0,653	88,754	-0,653	88,754	5,600	88,269	3,000	14,813	97,867
234+10,000		-9,575	86,658	-5,600	88,923	-3,000	89,091	-2,563	91,654	-2,563	91,654	5,600	89,259	3,000	14,431	98,475
235+0,000		-9,641	87,605	-5,600	89,914	-3,000	90,082	-2,966	93,048	-2,966	93,048	5,600	90,250	3,000	13,727	98,761

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)	
235+1,273	CS	-9,618	87,746	-5,600	90,040	-3,000	90,208	-3,010	93,218	5,600	90,376	3,000	13,733	98,894		
235+10,000		-9,529	88,670	-5,600	90,904	-3,000	91,072	-3,311	94,383	5,600	91,215	2,560	13,804	99,805		
236+0,000		-5,771	92,417	-5,600	91,861	-3,000	92,029	-3,706	95,735	5,600	92,144	2,060	13,845	100,775		
236+10,000		-5,831	93,368	-5,600	92,752	-3,000	92,920	-3,599	96,519	5,600	93,007	1,560	13,263	101,055		
237+0,000		-9,006	91,691	-5,600	93,576	-3,000	93,744	-3,302	97,046	5,600	93,804	1,060	12,448	101,037		
237+10,000		-9,072	92,405	-5,600	94,334	-3,000	94,502	-2,398	96,900	5,600	94,534	0,560	11,228	100,547		
238+0,000		-9,340	92,918	-5,600	95,026	-3,000	95,194	-1,282	96,476	5,600	95,197	0,060	9,904	99,886		
238+1,273	ST	-9,401	92,961	-5,600	95,109	-3,000	95,277	-1,134	96,411	5,600	95,277	0,000	9,730	99,793		
239+0,000		-29,506	82,911	-5,600	96,373	-0,100	96,379	1,625	94,754	5,600	96,326	-0,940	7,647	98,758		
239+0,557	TS	-29,720	82,803	-5,600	96,408	0,000	96,408	1,738	94,670	5,600	96,354	-0,960	7,616	98,756		
239+10,000		-29,109	83,920	-5,823	96,969	1,680	96,871	2,517	94,354	5,454	96,753	-2,170	7,021	98,704		
240+0,000		-26,672	86,047	-5,783	97,498	3,460	97,298	2,442	94,856	5,721	97,100	-3,460	7,264	99,028		
240+10,000		-17,577	90,482	-5,782	97,960	5,230	97,658	2,178	95,480	6,083	97,339	-5,240	8,160	99,802		
241+0,000		-13,993	93,547	-6,161	98,383	7,010	97,952	1,894	96,058	6,207	97,516	-7,010	9,068	100,763		
241+0,557	SC	-13,792	93,730	-6,200	98,407	7,110	97,966	1,879	96,087	6,200	97,525	-7,110	9,110	100,820		
241+10,000		-8,487	97,480	-6,200	98,620	7,110	98,179	1,633	96,546	6,200	97,738	-7,110	10,071	101,994		
242+0,000		-9,396	97,035	-6,200	98,781	7,110	98,340	1,322	97,018	6,200	97,899	-7,110	11,314	103,398		
242+1,060		-9,320	97,099	-6,200	98,794	7,110	98,353	1,289	97,064	6,200	97,912	-7,110	11,444	103,541		
242+10,000		-8,703	97,592	-6,200	98,875	7,110	98,435	1,007	97,428	6,200	97,994	-7,110	12,393	104,572		
243+0,000		-8,070	98,042	-6,200	98,904	7,110	98,463	-1,193	99,656	6,200	98,022	-7,110	12,919	105,126		
243+1,563	CS	-8,015	98,077	-6,200	98,902	7,110	98,461	-1,408	99,869	6,200	98,020	-7,110	13,025	105,231		
243+10,000		-7,241	98,263	-5,923	98,757	5,610	98,425	-3,212	101,637	6,226	98,075	-5,610	13,413	105,648		
244+0,000		-6,781	98,359	-5,922	98,547	3,830	98,320	-4,622	102,942	5,933	98,093	-3,830	13,659	106,204		
244+10,000		-6,589	98,233	-5,953	98,272	2,060	98,150	-5,461	103,611	5,596	97,958	-3,420	14,212	106,959		
245+0,000		-6,428	97,821	-5,689	97,928	0,280	97,913	-4,909	102,822	5,557	97,746	-3,000	14,679	107,253		
245+1,563	ST	-6,396	97,724	-5,600	97,869	0,000	97,870	-4,661	102,531	5,600	97,701	-3,000	14,841	107,327		
246+0,000		-6,981	96,536	-5,600	97,071	-3,000	97,239	-3,303	100,542	5,600	97,071	-3,000	15,041	106,897		
246+15,633	TS	-7,260	95,639	-5,600	96,360	-3,000	96,528	-3,953	100,481	5,600	96,528	0,000	14,296	105,609		
247+0,000		-7,358	95,373	-5,644	96,131	-3,000	96,301	-4,013	100,314	5,824	96,369	1,170	14,388	105,319		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	Distância (m)	Cota (m)	(%)			
247+10,000		-7,644	94,766	-6,049	95,445	-4,750	99,803	-4,071	5,907	95,958	3,830	13,856	104,292			
248+0,000		-7,693	94,159	-6,326	94,686	-6,500	98,274	-3,177	5,918	95,481	6,500	13,204	103,152			
248+5,633	SC	-7,286	93,867	-6,187	94,215	-8,000	96,047	-1,337	6,146	95,202	8,000	12,874	102,315			
248+10,000		-7,273	93,602	-6,256	93,895	-8,000	94,218	0,177	6,230	94,894	8,000	12,978	102,027			
249+0,000		-7,229	92,932	-6,373	93,118	-8,000	96,039	-2,411	6,368	94,137	8,000	13,690	101,844			
249+3,646		-7,126	92,720	-6,400	92,819	-8,000	97,282	-3,951	6,400	93,843	8,000	13,844	101,672			
249+10,000		-7,040	92,254	-6,425	92,279	-8,000	97,116	-4,323	6,430	93,308	8,000	14,007	101,270			
250+0,000		-6,707	91,567	-6,409	91,380	-8,000	96,721	-4,828	6,411	92,406	8,000	14,080	100,460			
250+1,659	CS	-6,633	91,454	-6,400	91,225	-8,000	96,569	-4,832	6,400	92,249	8,000	14,294	100,528			
250+10,000		-6,651	90,880	-6,575	90,546	-5,780	95,229	-4,303	6,132	91,280	5,780	14,989	100,523			
251+0,000		-6,392	90,021	-6,248	89,732	-3,110	89,926	-1,476	6,194	90,118	3,110	15,765	100,074			
251+10,000		-6,185	89,370	-5,947	88,746	-3,020	88,926	-0,521	6,038	88,953	0,440	20,784	100,993			
251+11,659	ST	-6,232	89,251	-5,947	88,581	-3,000	88,760	-0,595	5,947	88,760	0,000	20,838	100,946			
252+0,000		-6,355	88,608	-5,947	87,815	-1,860	87,926	-0,925	5,947	87,794	-2,220	21,738	100,880			
252+6,966	TS	-6,630	88,298	-5,947	87,229	0,000	87,229	-1,201	5,947	87,051	-3,000	22,717	101,116			
252+10,000		-6,871	88,219	-6,011	86,974	0,810	86,926	-1,282	5,825	86,744	-3,110	23,154	101,369			
253+0,000		-7,131	87,702	-5,946	86,133	3,480	85,926	-1,561	5,947	85,719	-3,480	25,363	102,430			
253+10,000		-7,228	86,939	-5,966	85,292	6,140	84,926	-1,798	6,332	84,537	-6,140	27,748	103,247			
253+16,966	SC	-7,675	86,401	-6,400	84,741	8,000	84,229	-1,941	6,400	83,717	-8,000	29,095	103,708			
253+19,094		-7,678	86,192	-6,400	84,528	8,000	84,016	-1,997	6,400	83,504	-8,000	33,165	104,474			
254+0,000		-7,680	86,103	-6,400	84,438	8,000	83,926	-2,020	6,400	83,414	-8,000	33,305	104,523			
254+1,222	CS	-7,683	85,983	-6,400	84,315	8,000	83,803	-2,051	6,400	83,291	-8,000	33,495	104,591			
254+10,000		-7,452	85,071	-6,033	83,267	5,660	82,926	-2,137	6,458	82,560	-5,660	34,082	104,389			
255+0,000		-7,666	84,007	-6,153	82,109	2,990	81,926	-2,154	6,160	81,741	-2,990	35,028	104,815			
255+10,000		-7,595	82,737	-6,189	80,946	0,330	80,926	-1,829	6,111	80,906	-0,330	37,038	106,037			
255+11,222	ST	-7,540	82,573	-6,156	80,803	0,000	80,804	-1,778	6,156	80,803	0,000	37,148	106,001			
255+14,227	PC	-7,403	82,174	-6,086	80,471	-0,560	80,505	-1,650	6,049	80,539	0,560	37,069	105,764			
256+0,000		-7,099	81,429	-5,899	79,844	-1,630	79,940	-1,400	5,896	80,037	1,630	37,053	105,399			
256+10,000		-6,643	80,045	-5,833	78,850	-2,310	78,986	-1,145	5,835	79,121	2,310	36,906	104,396			

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		(%)	Distância (m)	Cota (m)		
257+0,000		-6,237	78,711	-5,798	77,887	-3,000	78,061	78,983	-0,922	5,798	78,235	3,000	35,752	102,393		
257+5,370		-6,033	78,032	-5,789	77,403	-3,000	77,576	78,401	-0,825	5,789	77,750	3,000	35,373	101,540		
257+10,000		-5,933	77,524	-5,786	76,992	-3,000	77,166	77,937	-0,771	5,786	77,339	3,000	35,210	100,968		
258+0,000		-5,881	76,596	-5,798	76,127	-3,000	76,301	76,985	-0,684	5,793	76,475	3,000	27,429	95,406		
258+10,000		-6,111	75,876	-5,909	75,289	-3,000	75,466	76,219	-0,753	5,528	75,599	2,400	26,747	94,113		
258+16,512	PT	-6,176	75,482	-5,943	74,764	-3,000	74,939	75,765	-0,826	5,517	75,050	2,010	28,001	94,829		
259+0,000		-6,180	75,271	-5,782	74,488	-3,000	74,662	75,519	-0,857	5,542	74,759	1,750	28,082	94,594		
260+0,000		-6,021	73,769	-5,597	72,960	-3,000	73,128	73,906	-0,778	5,600	73,141	0,250	28,540	93,377		
261+0,000		-5,923	72,149	-5,600	71,440	-3,000	71,608	72,199	-0,591	5,600	71,538	-1,250	26,853	90,086		
262+0,000		-6,194	70,900	-5,600	69,921	-3,000	70,089	71,561	-1,472	5,600	70,053	-0,640	26,648	88,397		
263+0,000		-6,129	69,319	-5,598	68,402	-3,000	68,570	70,654	-2,084	5,600	68,569	-0,020	34,744	91,918		
264+0,000		-5,731	67,297	-5,699	66,880	-3,000	67,051	67,077	-0,026	5,687	67,135	1,480	36,125	91,778		
264+7,086	PC	-6,093	66,529	-5,800	66,339	-3,000	66,513	66,306	0,207	5,800	66,629	2,010	36,418	91,453		
264+10,000		-6,247	66,205	-5,800	66,118	-3,000	66,292	65,991	0,301	5,800	66,421	2,230	36,392	91,218		
265+0,000		-6,813	65,067	-5,800	65,358	-3,000	65,532	64,930	0,602	5,800	65,705	2,980	28,558	85,758		
265+10,000		-7,331	63,963	-5,800	64,598	-3,000	64,773	63,887	0,886	5,800	64,946	2,990	26,120	82,561		
266+0,000		-28,054	51,478	-5,800	63,839	-3,000	64,013	62,810	1,203	5,800	64,187	3,000	24,279	79,961		
266+10,000		-27,782	50,900	-5,800	63,079	-3,000	63,253	61,793	1,460	5,800	63,427	3,000	13,983	71,995		
266+16,503		-26,353	51,358	-5,800	62,585	-3,000	62,759	61,192	1,567	5,800	62,933	3,000	5,844	63,289		
267+0,000		-25,621	51,581	-5,800	62,320	-3,000	62,494	60,874	1,620	5,800	62,668	3,000	6,010	62,913		
267+10,000		-19,761	52,638	-5,800	61,560	-3,000	61,734	59,932	1,802	5,800	61,908	3,000	6,440	61,867		
268+0,000		-17,774	53,203	-5,800	60,801	-3,000	60,975	58,934	2,041	5,800	61,149	3,000	6,297	61,203		
268+10,000		-14,988	54,301	-5,800	60,041	-3,000	60,215	57,943	2,272	5,800	60,373	2,720	10,386	65,344		
269+0,000		-10,307	56,662	-5,800	59,282	-3,000	59,456	56,959	2,497	5,800	59,598	2,450	9,795	63,977		
269+5,921	PT	-8,424	57,470	-5,800	58,835	-3,000	59,009	56,382	2,627	5,800	59,125	2,010	5,822	59,495		
269+9,382																
269+11,537	PC															
270+0,000																
270+10,000																

RÓTULA DE INTERSEÇÃO COM O TRECHO 02



Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	Distância (m)	Cota (m)	(%)			
281+14,589	CS	-13,911	60,072	-5,800	51,576	-3,000	51,750	48,707	3,043	5,600	51,918	3,000	12,446	47,739		
282+0,000		-11,618	57,750	-5,765	51,511	-3,000	51,684	48,597	3,087	5,600	51,822	2,460	12,559	47,567		
282+10,000		-6,029	51,495	-5,600	51,395	-3,000	51,563	48,375	3,188	5,600	51,645	1,460	13,707	46,626		
283+0,000		-8,434	49,771	-5,600	51,275	-3,000	51,443	48,168	3,275	5,600	51,468	0,460	13,718	46,441		
283+4,589	ST	-10,108	48,599	-5,600	51,219	-3,000	51,387	48,107	3,280	5,600	51,387	0,000	13,781	46,318		
284+0,000		-12,581	46,764	-5,600	51,033	-3,000	51,201	47,864	3,337	5,600	51,115	-1,540	12,209	47,094		
284+9,702		-12,581	46,618	-5,600	50,886	-3,000	51,055	47,083	3,972	5,600	50,968	-1,540	12,209	46,947		
285+0,000		-13,227	46,031	-5,600	50,731	-3,000	50,899	47,118	3,781	5,600	50,731	-3,000	10,284	47,993		
286+0,000		-13,132	45,793	-5,600	50,429	-3,000	50,597	46,683	3,914	5,600	50,455	-2,530	9,275	48,390		
286+16,604	TS	-12,847	45,715	-5,574	50,179	-3,000	50,346	47,704	2,642	5,668	50,346	0,000	8,414	48,901		
287+0,000		-12,894	45,677	-5,645	50,125	-3,000	50,295	47,816	2,479	5,646	50,324	0,520	8,323	48,924		
287+10,000		-13,059	45,565	-5,905	49,950	-3,290	50,144	47,630	2,514	5,581	50,258	2,040	7,888	49,105		
288+0,000		-12,803	45,667	-6,062	49,776	-3,570	49,993	47,642	2,351	5,702	50,196	3,570	8,324	48,833		
288+6,604	SC	-12,340	45,776	-6,000	49,618	-4,580	49,893	47,650	2,243	6,000	50,167	4,580	8,620	48,806		
288+10,000		-12,204	45,816	-6,000	49,567	-4,580	49,841	47,647	2,194	6,000	50,116	4,580	8,604	48,765		
289+0,000		-11,934	45,844	-6,000	49,415	-4,580	49,690	47,666	2,024	6,000	49,965	4,580	8,326	48,800		
289+10,000		-11,818	45,771	-6,000	49,264	-4,580	49,539	47,660	1,879	6,000	49,814	4,580	8,233	48,710		
289+17,499		-11,727	45,718	-6,000	49,151	-4,580	49,426	47,697	1,729	6,000	49,701	4,580	7,732	48,931		
290+0,000		-11,705	45,695	-6,000	49,113	-4,580	49,388	47,713	1,675	6,000	49,663	4,580	7,417	49,103		
290+10,000		-11,637	45,589	-6,000	48,962	-4,580	49,237	47,752	1,485	6,000	49,512	4,580	6,916	49,286		
291+0,000		-11,765	45,353	-6,000	48,811	-4,580	49,086	47,883	1,203	6,000	49,361	4,580	8,191	51,937		
291+8,394	CS	-11,775	45,220	-6,000	48,684	-4,580	48,959	47,943	1,016	6,000	49,234	4,580	7,880	51,499		
291+10,000		-11,784	45,191	-5,998	48,663	-4,530	48,935	47,931	1,004	5,950	49,204	4,530	7,504	51,143		
292+0,000		-11,274	45,313	-5,860	48,537	-4,210	48,784	47,837	0,947	5,838	49,030	4,210	6,005	49,304		
292+10,000		-11,053	45,210	-5,672	48,412	-3,890	48,633	47,839	0,794	5,895	48,862	3,890	6,530	48,824		
292+18,394	ST	-11,068	45,072	-5,647	48,301	-3,630	48,506	47,458	1,048	5,903	48,720	3,630	7,146	48,277		
293+0,000		-11,103	45,041	-5,668	48,279	-3,580	48,482	47,347	1,135	5,889	48,693	3,580	7,261	48,163		
293+5,077	PC	-11,265	44,948	-5,800	48,207	-3,420	48,405	47,038	1,367	5,800	48,603	3,420	7,310	47,982		
293+10,000		-11,257	44,886	-5,798	48,140	-3,280	48,331	46,826	1,505	5,795	48,521	3,280	7,265	47,926		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	(%)			
294+0,000		-11,287	44,730	-5,796	48,006	-3,000	46,557	1,623	5,788	48,353	3,000	7,176	47,813			
294+10,000		-11,310	44,564	-5,796	47,855	-3,000	46,376	1,653	5,787	48,202	3,000	7,146	47,681			
295+0,000		-11,085	44,563	-5,798	47,703	-3,000	46,763	1,114	5,792	48,051	3,000	7,060	47,591			
295+7,335		-10,965	44,534	-5,800	47,593	-3,000	47,076	0,691	5,800	47,941	3,000	6,944	47,563			
295+10,000		-10,931	44,518	-5,801	47,552	-3,000	47,107	0,619	5,804	47,900	3,000	6,616	47,744			
296+0,000		-11,101	44,256	-5,807	47,401	-3,000	47,004	0,571	5,821	47,750	3,000	9,262	51,576			
296+10,000		-10,975	44,228	-5,814	47,283	-2,870	46,999	0,451	5,844	47,617	2,860	11,207	53,366			
297+0,000		-10,951	44,184	-5,823	47,218	-2,730	46,986	0,391	5,873	47,537	2,730	11,825	53,875			
297+9,593	PT	-11,649	43,746	-5,833	47,238	-2,010	46,903	0,452	5,906	47,473	2,010	11,062	53,014			
297+14,634	TS	-11,341	44,107	-5,880	47,362	0,000	46,840	0,522	5,886	47,362	0,000	10,529	52,391			
298+0,000		-11,033	44,393	-5,897	47,432	0,800	46,767	0,618	5,880	47,338	-0,800	9,932	51,776			
298+10,000		-10,735	44,729	-5,850	47,600	2,280	46,693	0,774	5,985	47,330	-2,280	8,724	50,455			
299+0,000		-10,887	44,875	-5,890	47,822	3,760	46,665	0,935	6,047	47,373	-3,760	7,049	48,760			
299+4,634	SC	-11,344	44,768	-6,000	47,946	4,440	46,673	1,007	6,000	47,413	-4,440	6,304	47,595			
299+10,000		-11,910	44,497	-6,000	48,052	4,440	46,697	1,089	6,000	47,519	-4,440	6,643	47,475			
300+0,000		-12,526	44,323	-6,000	48,289	4,440	46,820	1,203	6,000	47,756	-4,440	6,956	47,504			
300+3,233		-12,991	44,101	-6,000	48,377	4,440	46,935	1,175	6,000	47,844	-4,440	6,965	47,585			
300+10,000		-12,995	44,299	-6,000	48,578	4,440	47,016	1,295	6,000	48,045	-4,440	6,850	47,863			
301+0,000		-12,695	44,840	-6,000	48,918	4,440	48,652	1,541	6,000	48,385	-4,440	6,342	48,543			
301+1,833	CS	-12,800	44,838	-6,000	48,986	4,440	47,120	1,600	6,000	48,453	-4,440	6,311	48,631			
301+10,000		-12,644	44,914	-5,600	49,225	3,230	49,044	1,767	5,600	48,832	-3,790	6,004	48,947			
302+0,000		-13,055	45,001	-5,600	49,586	1,750	49,488	2,005	8,764	49,225	-3,000	15,257	56,103			
302+10,000		-14,779	44,238	-5,600	49,973	0,270	49,958	2,006	8,620	49,699	-3,000	15,429	56,893			
302+11,833	ST	-15,111	44,088	-5,600	50,044	0,000	48,054	1,990	8,600	49,786	-3,000	15,395	56,966			
303+0,000		-16,604	43,422	-5,600	50,372	-0,990	48,508	1,920	8,600	50,170	-3,000	15,520	57,475			
304+0,000		-18,938	42,881	-5,614	51,379	0,210	50,195	1,172	8,600	51,109	-3,000	16,028	58,922			
305+0,000		-16,063	45,860	-5,694	52,387	1,410	51,872	0,435	8,694	52,046	-3,000	15,553	59,290			
305+9,966	PC	-13,907	47,872	-5,800	52,892	2,010	52,775	0,140	8,760	52,513	-3,000	15,227	59,365			
305+10,000		-13,891	47,885	-5,800	52,894	2,010	52,777	0,139	8,760	52,514	-3,000	15,225	59,364			

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
306+0,000		-8,615	51,879	-5,800	53,371	2,610	53,219	-0,158	53,377	8,800	52,955	-3,000	14,840	59,380		
306+10,000		-8,114	52,612	-5,800	53,769	2,810	53,607	-0,414	54,021	8,800	53,343	-3,000	14,876	59,804		
307+0,000		-6,500	54,032	-5,800	54,113	3,000	53,939	-0,649	54,588	8,800	53,675	-3,000	15,292	60,552		
307+5,626		-5,970	54,831	-5,800	54,276	3,000	54,102	-0,779	54,881	8,800	53,838	-3,000	15,626	61,049		
307+10,000		-5,864	54,839	-5,800	54,391	3,000	54,217	-0,831	55,048	8,800	53,953	-3,000	15,852	61,389		
308+0,000		-6,433	54,576	-5,800	54,613	3,000	54,439	-1,005	55,444	8,800	54,175	-3,000	16,522	62,282		
308+10,000		-10,007	52,338	-5,800	54,758	2,610	54,607	-1,244	55,851	8,800	54,342	-3,000	17,439	63,367		
309+0,000		-6,591	54,705	-5,800	54,848	2,220	54,719	-1,519	56,238	8,769	54,456	-3,000	18,109	64,181		
309+1,287	PT	-5,830	55,269	-5,800	54,854	2,150	54,729	-1,560	56,289	8,760	54,467	-3,000	18,169	64,261		
310+0,000		-5,978	55,609	-5,600	54,846	1,190	54,779	-2,166	56,945	8,635	54,520	-3,000	18,319	64,589		
311+0,000		-6,060	55,473	-5,600	54,628	0,160	54,619	-2,594	57,213	8,600	54,548	-0,820	18,341	64,674		
311+3,180	TS	-6,042	55,401	-5,600	54,573	0,000	54,573	-2,642	57,215	8,600	54,573	0,000	18,295	64,654		
311+10,000		-6,060	55,192	-5,610	54,357	-1,770	54,457	-2,731	57,188	8,763	54,611	1,770	18,467	64,700		
312+0,000		-6,689	55,059	-5,993	53,978	-4,360	54,239	-2,657	56,896	9,006	54,632	4,360	24,222	67,143		
312+10,000		-7,148	54,757	-6,304	53,528	-6,950	53,967	-2,575	56,542	9,211	54,607	6,950	24,638	67,329		
312+13,180	SC	-7,096	54,560	-6,300	53,378	-7,780	53,869	-2,513	56,382	9,300	54,592	7,780	24,660	67,247		
313+0,000		-7,230	54,464	-6,300	53,149	-7,780	53,639	-2,340	55,979	9,300	54,363	7,780	24,976	67,334		
313+9,166		-7,338	54,224	-6,300	52,801	-7,780	53,291	-2,076	55,367	9,300	54,015	7,780	24,702	66,711		
313+10,000		-7,340	54,192	-6,300	52,767	-7,780	53,257	-2,054	55,311	9,300	53,981	7,780	24,639	66,615		
314+0,000		-7,320	53,735	-6,300	52,329	-7,780	52,820	-1,861	54,681	9,300	53,543	7,780	24,013	65,552		
314+5,152	CS	-7,124	53,292	-6,300	52,083	-7,780	52,573	-1,824	54,397	9,300	53,296	7,780	19,007	63,388		
314+10,000		-7,018	53,037	-6,283	51,917	-6,520	52,327	-1,850	54,177	9,175	52,926	6,520	18,342	62,478		
315+0,000		-6,714	52,716	-5,957	51,573	-3,930	51,808	-1,877	53,685	8,957	52,159	3,930	17,001	60,589		
315+10,000		-6,164	52,162	-5,600	51,213	-1,340	51,288	-1,825	53,113	8,732	51,404	1,340	15,593	58,650		
315+15,152	ST	-5,939	51,744	-5,600	51,020	0,000	51,020	-1,813	52,833	8,600	51,020	0,000	15,077	57,882		
315+19,008	TS	-5,955	51,560	-5,600	50,819	0,000	50,819	-1,773	52,592	8,600	50,733	-1,000	14,946	57,464		
316+0,000		-5,977	51,534	-5,600	50,772	0,070	50,768	-1,761	52,529	8,599	50,659	-1,260	14,911	57,357		
316+10,000		-6,204	51,283	-5,600	50,294	0,820	50,248	-1,629	51,877	8,658	50,064	-2,130	14,444	56,235		
317+0,000		-6,480	51,081	-5,600	49,816	1,560	49,728	-1,396	51,124	8,761	49,465	-3,000	14,295	55,385		



Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET	BORDO		OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	Cota (m)		Distância (m)	Cota (m)
317+10,000		-6,563	50,453	-5,856	49,361	2,300	49,226	50,098	-0,872	8,799	48,961	-3,020	13,882	54,429		
318+0,000		-6,156	49,609	-5,871	48,939	3,040	48,760	49,064	-0,304	5,600	48,590	-3,040	8,900	52,275		
318+10,000		-7,339	47,971	-5,889	48,552	3,780	48,330	47,839	0,491	5,985	48,104	-3,780	6,897	47,881		
318+19,008	SC	-9,927	46,007	-6,000	48,240	4,440	47,973	47,015	0,958	6,000	47,707	-4,440	7,972	46,777		
319+0,000		-10,325	45,704	-6,000	48,202	4,440	47,936	46,973	0,963	6,000	47,669	-4,440	8,057	46,683		
319+10,000		-12,271	44,048	-6,000	47,844	4,440	47,577	45,910	1,667	6,000	47,311	-4,440	8,661	45,922		
320+0,000		-13,347	43,008	-6,000	47,521	4,440	47,255	45,006	2,249	6,000	46,988	-4,440	8,740	45,547		
320+3,689		-13,350	42,897	-6,000	47,411	4,440	47,145	44,829	2,316	6,000	46,878	-4,440	8,626	45,513		
320+10,000		-13,288	42,760	-6,000	47,234	4,440	46,968	44,528	2,440	6,000	46,702	-4,440	8,265	45,577		
321+0,000		-13,264	42,526	-6,000	46,983	4,440	46,717	44,086	2,631	6,000	46,451	-4,440	7,398	45,904		
321+8,369	CS	-13,894	41,924	-6,000	46,801	4,440	46,535	43,904	2,631	6,000	46,268	-4,440	6,580	46,267		
321+10,000		-14,062	41,757	-5,980	46,760	4,320	46,502	43,868	2,634	5,998	46,243	-4,320	6,387	46,369		
322+0,000		-15,296	40,669	-5,920	46,535	3,580	46,323	43,685	2,638	5,920	46,111	-3,580	6,047	46,411		
322+10,000		-14,943	40,698	-5,892	46,347	2,840	46,180	43,535	2,645	5,813	45,988	-3,290	5,850	46,410		
323+0,000		-14,200	40,841	-5,600	46,190	2,100	46,072	43,385	2,687	5,786	45,898	-3,000	6,414	45,864		
323+10,000		-13,774	40,994	-5,600	46,059	1,360	45,983	43,206	2,777	5,600	45,814	-3,000	7,259	45,094		
324+0,000		-13,929	40,760	-5,600	45,928	0,620	45,893	43,034	2,859	5,600	45,725	-3,000	8,177	44,392		
324+8,369	ST	-14,002	40,601	-5,600	45,818	0,000	45,818	42,922	2,896	5,600	45,650	-3,000	8,935	43,812		
325+0,000		-13,694	40,655	-5,600	45,666	-0,860	45,714	42,872	2,842	5,600	45,546	-3,000	9,196	43,533		
326+0,000		-12,687	41,064	-5,600	45,404	-2,340	45,535	42,664	2,871	5,600	45,431	-1,860	8,498	43,884		
326+6,958	TS	-12,170	41,309	-5,600	45,304	-3,000	45,473	42,723	2,750	5,600	45,472	0,000	7,909	44,318		
326+10,000		-11,936	41,424	-5,588	45,271	-3,110	45,445	42,745	2,700	5,785	45,492	0,810	7,753	44,565		
327+0,000		-11,578	41,780	-5,948	45,149	-3,480	45,356	42,962	2,394	5,959	45,563	3,480	7,754	44,751		
327+10,000		-11,194	42,056	-6,391	44,873	-6,150	45,266	43,188	2,078	5,957	45,632	6,150	8,278	44,470		
327+16,958	SC	-10,784	42,154	-6,400	44,692	-8,000	45,204	43,335	1,869	6,210	45,701	8,000	8,725	44,409		
328+0,000		-10,756	42,145	-6,400	44,665	-8,000	45,177	43,389	1,788	6,286	45,679	8,000	8,690	44,462		
328+7,389		-10,905	41,980	-6,400	44,598	-8,000	45,110	43,448	1,662	6,400	45,622	8,000	8,257	44,769		
328+10,000		-11,029	41,874	-6,400	44,575	-8,000	45,087	43,455	1,632	6,418	45,600	8,000	8,109	44,858		
328+17,821	CS	-11,642	41,396	-6,400	44,505	-8,000	45,017	43,439	1,578	6,400	45,529	8,000	7,851	44,947		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET	BORDO		OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	Cota (m)		Distância (m)	Cota (m)
329+0,000		-11,808	41,284	-6,369	44,525	-7,420	44,998	43,427	1,571	6,206	45,458	7,420	7,683	44,858		
329+10,000		-12,419	40,658	-5,930	44,599	-5,210	44,908	43,516	1,392	5,842	45,186	4,760	7,745	44,302		
330+0,000		-12,680	40,247	-5,492	44,654	-3,000	44,818	42,530	2,288	5,817	44,940	2,090	7,933	43,914		
330+7,821	ST	-13,009	40,026	-5,600	44,580	-3,000	44,748	41,638	3,110	5,600	44,748	0,000	7,544	43,838		
331+0,000		-12,963	39,947	-5,600	44,471	-3,000	44,639	41,543	3,096	5,600	44,471	-3,000	7,000	43,923		
332+0,000		-13,131	39,757	-5,600	44,392	-1,210	44,460	43,681	0,779	5,600	44,292	-3,000	6,399	44,144		
332+4,525	TS	-13,463	39,563	-5,600	44,420	0,000	44,420	44,199	0,221	5,600	44,252	-3,000	6,205	44,233		
332+10,000		-13,998	39,434	-5,886	44,457	1,460	44,371	44,202	0,169	5,589	44,181	-3,400	5,831	44,404		
333+0,000		-12,505	40,575	-6,002	44,525	4,130	44,277	44,479	-0,202	6,006	44,029	-4,130	12,223	50,630		
333+10,000		-11,918	41,127	-6,143	44,592	6,790	44,174	44,670	-0,496	6,402	43,739	-6,790	13,951	51,673		
333+14,525	SC	-13,939	39,996	-6,400	44,637	8,000	44,125	44,765	-0,640	6,400	43,613	-8,000	14,164	51,763		
333+19,889		-14,802	39,360	-6,400	44,577	8,000	44,065	44,897	-0,832	6,400	43,553	-8,000	14,525	52,063		
334+0,000		-14,815	39,350	-6,400	44,575	8,000	44,063	44,901	-0,838	6,400	43,551	-8,000	14,536	52,072		
334+5,253	CS	-14,792	39,304	-6,400	44,514	8,000	44,002	45,070	-1,068	6,400	43,490	-8,000	15,154	52,629		
334+10,000		-14,209	39,361	-6,137	44,357	6,730	43,944	45,197	-1,253	6,412	43,512	-6,730	15,701	53,186		
335+0,000		-13,870	39,203	-6,006	44,060	4,070	43,816	45,338	-1,522	6,021	43,571	-4,070	15,903	53,837		
335+10,000		-5,961	44,226	-5,882	43,761	1,400	43,679	45,041	-1,362	5,600	43,490	-3,370	22,231	57,416		
335+15,253	ST	-5,729	44,118	-5,600	43,604	0,000	43,604	44,784	-1,180	5,600	43,436	-3,000	22,835	57,966		
335+17,003	TS	-5,658	44,021	-5,600	43,578	0,000	43,578	44,699	-1,121	5,600	43,410	-3,000	22,703	57,808		
336+0,000		-6,259	43,488	-5,600	43,542	0,150	43,534	44,553	-1,019	5,600	43,366	-3,000	22,624	57,684		
336+10,000		-12,453	39,233	-5,600	43,416	0,650	43,380	44,057	-0,677	5,600	43,212	-3,000	22,766	57,673		
337+0,000		-12,175	39,283	-5,600	43,282	1,150	43,217	43,585	-0,388	5,600	43,049	-3,000	22,692	57,436		
337+10,000		-11,860	39,350	-5,600	43,138	1,650	43,046	43,091	-0,045	5,600	42,878	-3,000	22,714	57,287		
338+0,000		-11,563	39,401	-5,600	42,991	2,150	42,871	42,729	0,142	5,600	42,703	-3,000	23,054	57,451		
338+10,000		-11,234	39,473	-5,600	42,844	2,650	42,695	42,326	0,369	5,600	42,527	-3,000	23,281	57,504		
338+17,003	SC	-10,544	39,829	-5,600	42,740	3,000	42,573	42,088	0,485	5,600	42,404	-3,000	22,354	56,453		
339+0,000		-9,707	40,335	-5,600	42,688	3,000	42,520	41,974	0,546	5,600	42,352	-3,000	21,982	56,029		
339+10,000		-7,457	41,659	-5,600	42,513	3,000	42,345	41,576	0,769	5,600	42,177	-3,000	13,717	50,679		
339+11,125		-7,594	41,549	-5,600	42,493	3,000	42,325	41,546	0,779	5,600	42,157	-3,000	13,504	50,446		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	Distância (m)	Cota (m)	(%)			
340+0,000		-10,049	39,757	-5,600	42,337	3,000	42,169	41,338	0,831	5,600	42,001	-3,000	9,849	46,635		
340+5,246	CS	-10,652	39,263	-5,600	42,245	3,000	42,077	41,156	0,921	5,600	41,909	-3,000	6,675	41,578		
340+10,000		-10,806	39,063	-5,600	42,148	2,760	41,994	40,985	1,009	5,600	41,826	-3,000	7,063	41,235		
341+0,000		-11,006	38,726	-5,600	41,945	2,260	41,818	40,945	0,873	5,600	41,650	-3,000	7,189	40,976		
341+10,000		-10,790	38,667	-5,600	41,742	1,760	41,643	39,720	1,923	5,600	41,475	-3,000	7,342	40,699		
342+0,000		-10,192	38,869	-5,600	41,546	1,260	41,475	39,304	2,171	5,600	41,307	-3,000	7,472	40,444		
342+10,000		-10,414	38,540	-5,600	41,365	0,760	41,322	39,056	2,266	5,600	41,158	-2,930	7,440	40,316		
343+0,000		-10,582	38,262	-5,600	41,199	0,260	41,184	38,813	2,371	5,600	41,023	-2,870	7,369	40,229		
343+5,246	ST	-10,551	38,202	-5,600	41,118	0,000	41,118	38,780	2,338	5,600	40,950	-3,000	7,296	40,204		
344+0,000		-10,055	38,257	-5,600	40,842	-1,970	40,953	39,269	1,684	5,600	40,921	-0,560	7,303	40,171		
344+2,136	TS	-10,032	38,236	-5,600	40,805	-2,250	40,931	39,313	1,618	5,600	40,931	0,000	7,320	40,170		
344+10,000		-9,976	38,154	-5,619	40,674	-3,300	40,859	39,746	1,113	5,942	40,980	2,040	7,546	40,296		
345+0,000		-9,904	38,288	-6,016	40,495	-4,630	40,773	39,920	0,853	6,016	41,052	4,630	7,185	40,657		
345+10,000		-9,446	38,522	-6,304	40,232	-7,220	40,688	39,974	0,714	6,194	41,135	7,220	7,193	40,854		
345+12,136	SC	-9,388	38,505	-6,300	40,179	-7,780	40,669	39,961	0,708	6,300	41,159	7,780	7,356	40,840		
346+0,000		-9,539	38,337	-6,300	40,111	-7,780	40,602	39,929	0,673	6,300	41,092	7,780	8,107	40,272		
346+1,069		-9,573	38,305	-6,300	40,102	-7,780	40,592	39,871	0,721	6,300	41,083	7,780	8,163	40,226		
346+10,000		-9,877	38,026	-6,300	40,026	-7,780	40,516	39,304	1,212	6,300	41,006	7,780	8,273	40,076		
347+0,000		-9,305	38,054	-5,600	40,139	-5,190	40,430	38,411	2,019	5,600	40,720	5,190	7,415	39,895		
347+10,000		-9,382	37,978	-5,600	40,115	-4,090	40,344	38,428	1,916	5,600	40,489	2,600	7,178	39,822		
348+0,000		-9,610	37,802	-5,600	40,090	-3,000	40,258	38,507	1,751	5,600	40,258	0,000	6,846	39,813		
348+17,640	TS	-10,193	37,429	-5,600	40,107	0,000	40,107	39,980	0,127	5,600	39,939	-3,000	12,239	46,962		
349+0,000		-10,360	37,410	-5,720	40,118	0,560	40,086	40,088	-0,002	5,606	39,918	-3,000	13,200	47,896		
349+10,000		-6,489	40,187	-5,932	40,174	2,930	40,001	41,987	-1,986	5,875	39,757	-4,150	23,788	54,965		
350+0,000		-6,920	39,995	-5,987	40,232	5,300	39,915	44,312	-4,397	6,194	39,586	-5,300	26,076	56,764		
350+7,640	SC	-7,345	39,912	-6,200	40,290	7,110	39,850	44,929	-5,079	6,200	39,409	-7,110	27,209	57,713		
350+10,000		-7,338	39,897	-6,200	40,270	7,110	39,830	45,141	-5,311	6,200	39,389	-7,110	27,541	58,025		
350+10,498		-7,335	39,894	-6,200	40,266	7,110	39,825	45,191	-5,366	6,200	39,384	-7,110	27,603	58,082		
350+13,356	CS	-7,321	39,880	-6,200	40,242	7,110	39,801	45,433	-5,632	6,200	39,361	-7,110	27,973	58,429		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)	(%)		
351+0,000		-6,916	39,876	-6,032	40,080	5,540	39,746	-5,371	45,117	6,029	39,412	-5,540	28,583	59,261		
351+10,000		-6,588	39,876	-6,041	39,856	3,170	39,665	-5,300	44,965	5,645	39,423	-4,270	28,131	59,204		
352+0,000		-6,193	39,866	-5,966	39,632	0,800	39,585	-3,409	42,994	5,509	39,419	-3,000	28,100	59,305		
352+3,356	ST	-5,948	39,876	-5,846	39,558	0,000	39,558	-2,998	42,556	5,600	39,390	-3,000	28,432	59,518		
353+0,000		-5,909	39,956	-5,600	39,262	-3,000	39,430	-2,691	42,121	5,600	39,262	-3,000	28,173	59,130		
354+0,000		-6,135	40,033	-5,600	39,114	-3,000	39,282	-2,074	41,356	5,600	39,153	-2,300	27,834	58,682		
355+0,000		-6,100	39,857	-5,600	38,972	-3,000	39,141	-0,878	40,019	5,600	39,096	-0,800	26,986	57,776		
356+0,000		-5,738	39,363	-5,597	38,838	-3,000	39,006	-0,730	39,736	5,600	39,045	0,700	25,584	56,324		
356+17,428	PC	-9,388	36,711	-5,800	38,718	-3,000	38,892	-0,697	39,589	5,800	39,008	2,010	24,445	54,948		
357+0,000		-9,208	36,814	-5,800	38,701	-3,000	38,875	-0,691	39,566	5,800	39,002	2,200	24,177	54,675		
357+10,000		-8,733	37,065	-5,800	38,635	-3,000	38,809	-0,692	39,501	5,800	38,960	2,600	15,741	49,286		
358+0,000		-8,625	37,071	-5,800	38,570	-3,000	38,744	-0,838	39,582	5,800	38,918	3,000	15,098	48,601		
358+10,000		-8,575	37,039	-5,800	38,504	-3,000	38,678	-0,979	39,657	5,800	38,852	3,000	14,600	48,038		
358+17,695		-8,810	36,832	-5,800	38,454	-3,000	38,628	-1,074	39,702	5,800	38,802	3,000	14,951	48,338		
359+0,000		-8,936	36,733	-5,800	38,439	-3,000	38,613	-1,101	39,714	5,800	38,787	3,000	15,009	48,381		
359+10,000		-9,603	36,223	-5,800	38,373	-3,000	38,547	-1,234	39,781	5,800	38,721	3,000	22,817	53,033		
360+0,000		-10,097	35,828	-5,800	38,308	-3,000	38,482	-1,401	39,883	5,800	38,656	3,000	23,683	53,833		
360+10,000		-10,469	35,514	-5,800	38,242	-3,000	38,416	-1,701	40,117	5,800	38,558	2,450	24,131	54,184		
360+17,962	PT	-10,653	35,340	-5,800	38,190	-3,000	38,364	-2,127	40,491	5,800	38,480	2,010	24,128	54,103		
361+0,000		-10,482	35,393	-5,726	38,179	-3,000	38,351	-2,080	40,431	5,726	38,457	1,860	23,904	53,930		
362+0,000		-10,271	35,363	-5,624	38,076	-3,000	38,245	-1,555	39,800	5,624	38,265	0,360	24,056	53,992		
363+0,000		-10,239	35,320	-5,600	38,028	-2,870	38,189	-0,453	38,642	5,600	38,125	-1,140	5,819	38,729		
364+0,000		-11,572	34,576	-5,600	38,172	-0,190	38,183	0,886	37,297	5,600	38,035	-2,640	6,903	37,552		
365+0,000		-11,047	35,121	-5,600	38,367	2,490	38,227	2,836	35,391	5,600	38,059	-3,000	7,747	37,013		
365+1,532	PC	-11,089	35,109	-5,600	38,384	2,690	38,233	2,856	35,377	5,600	38,065	-3,000	7,767	37,005		
365+10,000		-11,147	35,138	-5,596	38,453	3,300	38,269	2,924	35,345	5,604	38,074	-3,460	8,260	36,689		
365+16,604		-11,203	35,163	-5,600	38,513	3,770	38,303	2,952	35,351	5,600	38,088	-3,820	8,801	36,340		
366+0,000		-11,234	35,179	-5,604	38,547	4,010	38,322	2,942	35,380	5,596	38,098	-4,010	8,918	36,268		
366+10,000		-12,401	34,412	-5,626	38,544	2,880	38,382	3,811	34,571	5,574	38,207	-3,150	11,164	34,865		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Vermelha	Cota Terreno	Cota Projeto	BORDO		OFFSET	BORDO		OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	Cota (m)		Distância (m)	Cota (m)
366+11,677	PT	-11,274	35,166	-5,630	38,543	2,690	35,344	38,392	3,048	35,344	38,392	5,569	38,225	-3,000	9,360	36,083
366+15,528	PC	-11,232	35,196	-5,600	38,566	2,690	35,393	38,415	3,022	35,393	38,415	5,600	38,247	-3,000	9,328	36,147
367+0,000		-11,549	35,038	-5,590	38,626	3,290	35,223	38,442	3,219	35,223	38,442	5,590	38,258	-3,290	9,224	36,221
367+10,000		-11,834	34,930	-5,577	38,716	3,650	35,118	38,512	3,394	35,118	38,512	5,577	38,309	-3,650	9,742	35,917
368+0,000		-10,339	36,090	-5,575	38,880	4,010	35,515	38,656	3,141	35,515	38,656	5,575	38,433	-4,010	10,264	35,692
368+10,000		-7,395	38,287	-5,585	39,109	4,010	37,494	38,885	1,391	37,494	38,885	5,585	38,661	-4,010	9,175	36,653
368+17,527		-6,673	39,007	-5,600	39,337	4,010	38,616	39,113	0,497	38,616	39,113	5,600	38,888	-4,010	8,727	37,188
369+0,000		-6,457	39,240	-5,606	39,423	4,010	38,870	39,198	0,328	38,870	39,198	5,606	38,973	-4,010	8,709	37,290
369+10,000		-6,471	39,652	-5,639	39,821	4,010	39,554	39,595	0,041	39,554	39,595	5,639	39,369	-4,010	6,465	39,203
370+0,000		-6,595	40,081	-5,683	40,304	4,010	39,881	40,077	0,196	39,881	40,077	5,683	39,849	-4,010	6,314	39,813
370+10,000		-6,747	40,546	-5,738	40,834	3,330	40,637	40,642	0,005	40,637	40,642	5,738	40,442	-3,490	6,500	40,319
370+19,526	PT	-6,510	41,320	-5,801	41,407	2,690	41,227	41,251	0,024	41,227	41,251	5,801	41,077	-3,000	6,635	40,907
371+0,000		-6,499	41,353	-5,796	41,436	2,660	41,265	41,282	0,017	41,265	41,282	5,796	41,110	-2,970	8,466	39,715
372+0,000		-6,778	42,263	-5,600	42,664	1,450	42,311	42,583	0,272	42,311	42,583	5,600	42,492	-1,620	7,133	41,855
373+0,000		-6,637	43,590	-5,600	43,897	0,250	43,622	43,883	0,261	43,622	43,883	5,600	43,868	-0,270	6,202	43,851
373+4,066		-50,966	80,364	-5,600	43,883	0,000	44,001	43,883	-0,118	44,001	43,883	5,600	43,883	0,000	59,165	85,473





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***4.2 – NOTAS DE SERVIÇO DE TERRAPLENAGEM –  
RÓTULA DE INTERSEÇÃO COM O TRECHO 02***

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Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	Distância (m)	Cota (m)				
100+0,000	PC	-5,264	57,220	-2,617	58,599	-2,130	58,655	2,607	56,048	2,607	58,734	3,718	58,734	2,130		
100+10,000		-9,816	53,491	-2,685	57,860	-3,200	57,946	2,534	55,412	2,534	58,077	4,106	58,077	3,200		
101+0,000		-13,259	50,487	-2,685	57,151	-3,200	57,237	3,079	54,158	3,079	57,382	4,535	57,382	3,200		
101+10,000		-12,922	50,002	-2,685	56,442	-3,200	56,528	3,255	53,273	3,255	56,691	5,073	56,691	3,200		
102+0,000		-11,766	50,065	-2,685	55,733	-3,200	55,819	3,990	51,829	3,990	56,002	5,718	56,002	3,200		
102+1,264		-11,766	49,976	-2,685	55,645	-3,200	55,731	4,045	51,686	4,045	55,914	5,718	55,914	3,200		
102+10,000		-10,774	50,110	-2,685	55,118	-3,200	55,204	4,659	50,545	4,659	55,419	6,726	55,419	3,200		
102+15,023		-10,774	49,871	-2,685	54,879	-3,200	54,965	4,577	50,388	4,577	55,180	6,726	55,180	3,200		
103+0,000		-10,243	50,035	-2,685	54,688	-3,200	54,774	4,633	50,141	4,633	55,063	9,012	55,063	3,200		
103+10,000		-9,154	50,507	-2,685	54,434	-3,200	54,520	4,783	49,737	4,783	54,795	8,592	54,795	3,200		
104+0,000		-5,264	52,709	-2,300	54,300	-3,170	54,373	4,405	49,968	4,405	54,547	5,500	54,547	3,170		
104+2,528	PT	-5,264	52,686	-2,300	54,277	-3,170	54,350	3,896	50,454	3,896	54,525	5,500	54,525	3,170		
104+14,125	PC	-5,264	52,662	-2,300	54,253	-3,170	54,326	-0,207	54,533	-0,207	54,501	5,500	54,501	3,170		
105+0,000		-10,113	62,308	-2,478	54,288	-3,000	54,363	-2,500	56,863	-2,500	54,528	5,502	54,528	3,000		
105+10,000		-15,146	66,085	-2,300	54,384	-3,000	54,453	-5,479	59,932	-5,479	54,606	5,099	54,606	3,000		
106+0,000		-17,753	68,783	-2,300	54,474	-3,000	54,543	-5,421	59,964	-5,421	54,812	8,949	54,812	3,000		
106+6,914		-17,753	68,845	-2,300	54,537	-3,000	54,606	-4,456	59,062	-4,456	54,874	8,949	54,874	3,000		
106+10,000		-19,450	70,570	-2,300	54,565	-3,000	54,634	-4,033	58,667	-4,033	54,857	7,460	54,857	3,000		
107+0,000		-18,710	69,920	-2,300	54,655	-3,000	54,724	-2,786	57,510	-2,786	54,872	4,956	54,872	3,000		
107+10,000		-18,273	69,573	-2,300	54,745	-3,000	54,814	-1,854	56,668	-1,854	54,918	3,469	54,918	3,000		
107+19,703	PT	-18,273	69,661	-2,300	54,833	-3,000	54,902	-1,704	56,606	-1,704	55,006	3,469	55,006	3,000		
108+0,000		-17,181	68,570	-2,300	54,835	-3,020	54,904	-1,705	56,609	-1,705	54,992	2,894	54,992	3,020		
108+9,717	TS	-17,181	68,658	-2,300	54,922	-3,020	54,992	-1,551	56,543	-1,551	55,079	2,894	55,079	3,020		
108+10,000		-16,379	67,858	-2,300	54,924	-3,070	54,994	-1,547	56,541	-1,547	55,086	3,000	55,086	3,070		
109+0,000		-16,252	67,820	-2,300	55,013	-3,110	55,085	-1,617	56,702	-1,617	55,178	2,999	55,178	3,110		
109+10,000		-16,463	68,120	-2,300	55,102	-3,160	55,175	-1,979	57,154	-1,979	55,269	2,995	55,269	3,160		
109+19,717	SC	-16,463	68,208	-2,300	55,190	-3,160	55,263	-2,661	57,924	-2,661	55,357	2,995	55,357	3,160		
110+0,000		-17,207	68,600	-2,643	55,181	-3,200	55,265	-2,688	57,953	-2,688	55,371	3,325	55,371	3,200		
110+2,639		-17,207	68,623	-2,643	55,204	-3,200	55,289	-2,953	58,242	-2,953	55,395	3,325	55,395	3,200		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO			Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET				
		Distância (m)	Cota (m)	Distância (m)	Cota (m)	(%)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)		
110+5,561	CS	-17,207	68,650	-2,643	55,231	-3,200	55,315	58,608	-3,293	3,325	55,422	3,200				
110+10,000		-17,916	69,472	-2,594	55,295	-2,310	55,355	59,223	-3,868	3,250	55,430	2,310				
111+0,000		-16,982	68,792	-2,483	55,438	-0,310	55,446	60,037	-4,591	3,117	55,455	0,310				
111+10,000		-15,698	67,756	-2,373	55,576	1,690	55,536	60,495	-4,959	2,997	55,485	-1,690				
111+15,561	ST	-15,698	67,806	-2,373	55,626	1,690	55,586	59,503	-3,917	2,997	55,535	-1,690				
111+15,567		-15,698	67,800	-2,311	55,655	3,000	55,586	59,501	-3,915	3,311	55,487	-3,000				

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito				
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	Cota (m)	Distância (m)	Cota (m)	Distância (m)	Cota (m)
		Distância (m)	Cota (m)	Distância (m)	Cota (m)										
200+0,000		-8,424	52,047	-2,300	55,745	3,000	55,676	54,499	1,177	3,000	55,586	-3,000			
200+0,385	TS	-8,417	52,048	-2,300	55,741	2,990	55,673	54,523	1,150	2,999	55,583	-2,990			
200+10,000		-8,335	52,014	-2,300	55,653	2,840	55,588	54,521	1,067	2,980	55,503	-2,840			
201+0,000		-8,316	51,935	-2,300	55,561	2,670	55,499	53,989	1,510	2,973	55,420	-2,670			
201+10,000		-8,397	51,789	-2,300	55,468	2,510	55,411	53,069	2,342	2,978	55,336	-2,510			
201+10,680	SC	-8,786	51,749	-2,627	55,470	2,500	55,404	53,007	2,397	3,305	55,322	-2,500			
201+14,081		-8,469	51,715	-2,300	55,443	3,000	55,374	52,737	2,637	2,981	55,285	-3,000			
201+17,482	CS	-8,480	51,667	-2,300	55,402	2,500	55,344	52,541	2,803	2,985	55,270	-2,500			
202+0,000		-8,502	51,633	-2,300	55,382	2,620	55,322	52,442	2,880	2,987	55,244	-2,620			
202+10,000		-8,641	51,480	-2,342	55,295	2,620	55,234	51,896	3,338	3,036	55,154	-2,620			
203+0,000		-8,907	51,320	-2,571	55,159	0,560	55,145	51,646	3,499	3,269	55,127	-0,560			
203+7,777	ST	-9,068	51,222	-2,748	55,050	-0,950	55,076	51,532	3,544	3,459	55,109	0,950			
203+14,058	PC	-9,198	51,140	-2,892	54,959	-2,130	55,021	51,439	3,582	3,716	55,100	2,130			
204+0,000		-9,287	51,080	-3,021	54,871	-3,200	54,968	51,352	3,616	4,021	55,097	3,200			
204+10,000		-9,734	50,659	-3,021	54,749	-3,200	54,845	51,211	3,634	5,070	55,008	3,200			
205+0,000		-11,243	49,462	-3,021	54,558	-3,200	54,654	51,056	3,598	6,368	54,858	3,200			
205+5,319		-11,602	49,093	-3,021	54,428	-3,200	54,525	50,943	3,582	7,840	54,776	3,200			
205+10,000		-10,636	49,607	-3,021	54,298	-3,200	54,395	50,815	3,580	9,572	54,701	3,200			
206+0,000		-8,355	50,342	-2,300	53,994	-3,200	54,067	49,658	4,409	6,965	54,290	3,200			
206+4,545		-8,355	50,184	-2,300	53,836	-3,200	53,909	48,872	5,037	6,965	54,132	3,200			
206+10,000		-6,489	51,255	-2,300	53,662	-3,200	53,736	49,320	4,416	5,500	53,912	3,200			
206+16,579	PT	-4,838	52,170	-2,300	53,477	-3,200	53,550	49,242	4,308	5,500	53,726	3,200			
207+0,000		-4,037	52,618	-2,300	53,391	-3,200	53,464	49,733	3,731	5,500	53,640	3,200			
207+10,000		-6,703	57,182	-3,061	53,155	-3,200	53,253	53,030	0,223	6,261	53,454	3,200			
207+16,176		-9,495	59,873	-3,061	53,055	-3,200	53,153	54,371	-1,218	8,390	53,421	3,200			
208+0,000		-10,986	61,314	-3,061	53,004	-3,200	53,102	55,247	-2,145	6,642	53,315	3,200			
208+10,000		-16,149	65,612	-2,300	52,908	-3,200	52,981	57,961	-4,980	4,346	53,121	3,200			
208+15,770	PT	-19,035	67,815	-2,925	52,849	-2,130	52,912	58,911	-5,999	4,422	53,006	2,130			
209+0,000		-22,928	70,253	-2,823	52,823	-1,340	52,861	59,100	-6,239	4,127	52,916	1,340			
209+1,128		-23,087	70,548	-2,795	52,931	3,000	52,847	59,109	-6,262	4,048	52,726	-3,000			

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
300+0,000		-2,812	50,584	-2,300	50,670	50,741	50,672	0,069	3,200	50,857	3,100					
300+10,000		-3,368	50,463	-2,300	50,791	50,862	50,527	0,335	3,739	50,978	3,100					
301+0,000		-4,208	50,024	-2,300	50,911	50,983	50,302	0,681	7,026	51,200	3,100					
301+0,996		-4,287	49,983	-2,300	50,923	50,995	50,276	0,719	7,418	51,225	3,100					
301+10,000		-5,997	48,952	-2,300	51,032	51,103	49,727	1,376	6,073	51,292	3,100					
302+0,000		-6,382	48,875	-2,300	51,211	51,224	49,037	2,187	5,664	51,257	0,580					
302+1,992	PRC	-6,475	48,864	-2,300	51,262	51,248	48,962	2,286	5,500	51,216	-0,580					
302+7,412		-6,218	49,160	-2,300	51,387	51,314	48,803	2,511	5,500	51,138	-3,200					
302+9,482		-6,218	49,185	-2,300	51,412	51,339	48,729	2,610	5,500	51,163	-3,200					
302+10,000		-5,434	49,701	-2,300	51,405	51,345	48,673	2,672	5,500	51,202	-2,600					
302+12,833	PT	-4,949	50,034	-2,300	51,416	51,379	48,681	2,698	5,500	51,292	-1,580					
303+0,000		-4,873	50,141	-2,300	51,471	51,484	49,943	1,541	5,500	51,516	0,570					
303+6,566	PC	-4,949	50,218	-2,300	51,599	51,643	50,122	1,521	5,500	51,750	1,930					
303+10,000		-4,951	50,309	-2,300	51,691	51,752	50,226	1,526	5,500	51,897	2,640					
304+0,000		-4,831	50,798	-2,300	52,100	52,167	51,163	1,004	10,439	52,470	2,900					
304+0,593		-4,831	50,827	-2,300	52,129	52,196	51,192	1,004	10,439	52,499	2,900					
304+7,481		-4,597	51,360	-2,300	52,507	52,573	51,555	1,018	9,308	52,843	2,900					
304+10,000		-4,564	51,538	-2,300	52,662	52,729	51,665	1,064	8,507	52,975	2,900					
305+0,000		-4,898	52,005	-2,300	53,353	53,419	52,157	1,262	5,500	53,579	2,900					
305+8,395	PRC	-5,336	52,388	-2,300	54,027	54,014	52,563	1,451	4,854	53,988	-0,540					
305+10,000		-5,424	52,470	-2,300	54,168	54,128	52,635	1,493	4,694	54,047	-1,730					
306+0,000		-5,461	53,184	-2,300	54,906	54,837	53,390	1,447	3,872	54,721	-3,000					
306+7,104		-4,733	54,173	-2,300	55,410	55,341	53,935	1,406	3,473	55,237	-3,000					
306+10,000		-4,274	54,684	-2,300	55,615	55,546	54,150	1,396	3,355	55,445	-3,000					
307+0,000		-2,982	56,254	-2,300	56,324	56,255	55,073	1,182	3,142	56,161	-3,000					
307+5,812	PT	-2,326	57,104	-2,300	56,736	56,667	55,658	1,009	3,159	56,572	-3,000					
307+7,970		-8,751	63,725	-2,300	56,889	56,820	55,877	0,943	3,199	56,724	-3,000					

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
400+0,000				-7,592	54,478	54,326	50,751	3,575	17,197	53,982	-2,000					
400+10,000				-13,753	54,513	54,113	50,744	3,369	18,088	53,586	-2,910					
401+0,000				-13,819	54,314	53,899	50,025	3,874	18,016	53,359	-3,000					
401+10,000				-8,321	53,948	53,698	48,924	4,774	17,951	53,160	-3,000					
402+0,000				-13,820	54,002	53,587	49,507	4,080	17,934	53,049	-3,000					
402+7,123				-13,820	53,985	53,570	50,056	3,514	17,934	53,032	-3,000					
402+10,000				-9,242	53,855	53,578	49,976	3,602	17,847	53,043	-3,000					
403+0,000				-8,320	53,920	53,671	49,380	4,291	17,981	53,131	-3,000					
403+10,000				-12,369	54,224	53,853	49,598	4,255	17,637	53,324	-3,000					
404+0,000				-13,820	54,463	54,048	50,764	3,284	17,779	53,515	-3,000					
404+10,000				-8,683	54,450	54,243	50,839	3,404	17,108	53,835	-2,390					
404+14,246				-7,592	54,478	54,326	50,751	3,575	17,197	53,982	-2,000					





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***4.3 – NOTAS DE SERVIÇO DE TERRAPLENAGEM -  
RÓTULA DE INTERSEÇÃO COM O TRECHO 04***

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Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito			
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET			
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)	
100+0,000		-3,345	37,894	-2,300	36,464	-3,000	36,533	38,182	-1,649	3,300	36,434	-3,000		
100+10,000		-3,491	38,232	-2,300	36,656	-3,000	36,725	37,868	-1,143	4,118	36,601	-3,000		
101+0,000		-2,371	37,306	-2,300	36,850	-3,000	36,919	37,788	-0,869	5,175	36,763	-3,000		
101+10,000		-7,590	33,407	-1,500	37,082	-3,000	37,127	36,561	0,566	7,623	36,985	-1,000		
101+10,352		-7,916	33,197	-1,500	37,089	-3,000	37,134	36,469	0,665	7,748	36,991	-1,000		
102+0,000		-11,026	31,341	-1,500	37,306	-3,000	37,351	31,544	5,807	11,151	37,174	-1,000		
102+6,077		-11,026	31,485	-1,500	37,451	-3,000	37,496	30,681	6,815	11,151	37,318	-1,000		
102+10,000		-11,954	31,472	-2,300	37,523	-3,000	37,592	31,708	5,884	5,500	37,427	-3,000		
103+0,000		-11,952	31,729	-2,300	37,779	-3,000	37,848	32,313	5,535	5,500	37,683	-3,000		
103+0,703	PT	-11,958	31,743	-2,300	37,797	-3,000	37,866	32,388	5,478	5,500	37,701	-3,000		
104+0,000		-12,621	31,797	-2,300	38,293	-3,000	38,362	32,524	5,838	6,940	38,183	-1,000		
104+11,906	PC	-12,657	32,080	-2,300	38,600	-3,000	38,669	36,681	1,988	7,571	38,483	-1,000		
105+0,000		-12,728	32,241	-2,300	38,808	-3,000	38,877	37,356	1,521	5,374	38,716	-3,000		
105+2,201		-12,755	32,280	-2,300	38,865	-3,000	38,934	37,432	1,502	4,678	38,793	-3,000		
105+10,000		-12,880	32,397	-2,300	39,065	-3,000	39,134	37,703	1,431	3,400	39,032	-3,000		
105+12,497	PRC	-12,929	32,428	-2,300	39,130	-3,000	39,199	37,752	1,447	3,356	39,098	-3,000		
106+0,000		-12,246	33,077	-2,300	39,323	-3,000	39,392	37,859	1,533	3,375	39,290	-3,000		
106+0,951		-12,227	33,114	-2,300	39,347	-3,000	39,416	37,881	1,535	3,364	39,315	-3,000		
106+9,405	PT	-12,328	33,265	-2,300	39,565	-3,000	39,634	38,101	1,533	3,132	39,540	-3,000		
106+12,139		-12,660	33,113	-2,300	39,635	-3,000	39,704	38,152	1,552	3,072	39,612	-3,000		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO			Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET				
		Distância (m)	Cota (m)	Distância (m)	Cota (m)	(%)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)		
200+0,000				-3,300	40,520	-3,000	40,619	45,904	-5,285	2,300	40,550	-3,000	21,510	57,055		
200+10,000				-3,792	40,205	-3,000	40,319	46,720	-6,401	2,300	40,250	-3,000	25,060	60,305		
200+15,878				-4,540	40,006	-3,000	40,143	47,076	-6,933	2,300	40,074	-3,000	32,813	64,792		
201+0,000				-5,198	39,863	-3,000	40,019	47,268	-7,249	2,300	39,950	-3,000	33,727	65,582		
201+10,000				-5,500	39,554	-3,000	39,719	47,251	-7,532	2,300	39,650	-3,000	33,210	64,765		
201+11,756	PRC			-5,755	39,494	-3,000	39,666	47,110	-7,444	2,300	39,597	-3,000	32,991	64,493		
202+0,000				-7,638	39,190	-3,000	39,419	46,546	-7,127	2,300	39,350	-3,000	32,781	64,036		
202+5,157				-9,233	38,987	-3,000	39,264	46,239	-6,975	2,300	39,195	-3,000	32,758	63,858		
202+10,000				-8,299	38,870	-3,000	39,119	44,644	-5,525	2,300	39,050	-3,000	32,457	63,412		
202+18,557	PT			-6,000	38,682	-3,000	38,862	42,420	-3,558	2,300	38,793	-3,000	31,793	62,491		
203+0,000				-6,000	38,639	-3,000	38,819	42,334	-3,515	2,300	38,750	-3,000	31,672	62,327		
204+0,000				-6,000	38,157	-3,000	38,337	42,201	-3,864	2,300	38,268	-3,000	22,077	55,340		
204+1,113	PC			-6,000	38,144	-3,000	38,324	39,875	-1,551	2,300	38,255	-3,000	21,713	54,963		
204+10,000				-8,319	38,038	-3,000	38,287	43,526	-5,239	2,300	38,218	-3,000	20,447	53,660		
205+0,000				-8,002	38,137	-3,000	38,377	42,975	-4,598	2,300	38,308	-3,000	19,485	52,788		
205+7,665				-5,580	38,372	-3,000	38,540	41,745	-3,205	2,300	38,471	-3,000	18,716	52,182		
205+10,000				-5,237	38,443	-3,000	38,600	41,074	-2,474	2,300	38,531	-3,000	18,373	51,898		
206+0,000				-4,120	38,733	-3,000	38,857	39,600	-0,743	2,300	38,788	-3,000	11,510	48,383		
206+10,000				-3,581	39,006	-3,000	39,114	39,438	-0,324	2,300	39,045	-3,000	18,086	52,126		
206+14,216				-3,528	39,116	-3,000	39,222	39,687	-0,465	2,300	39,153	-3,000	18,606	52,754		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO			Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET				
		Distância (m)	Cota (m)	Distância (m)	Cota (m)	(%)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)		
300+0,000				-3,300	36,293	-3,000	36,392	40,781	-4,389	2,300	36,323	-3,000	24,720	56,038		
300+9,667	PC			-3,161	36,483	-3,000	36,577	39,292	-2,715	2,300	36,508	-3,000	31,756	60,170		
300+10,000				-3,175	36,489	-3,000	36,584	39,205	-2,621	2,300	36,515	-3,000	31,740	60,159		
301+0,000				-4,551	36,641	-3,000	36,778	37,201	-0,423	2,300	36,709	-3,000	31,428	60,042		
301+10,000				-6,955	36,785	-3,000	36,994	36,657	0,337	2,300	36,925	-3,000	24,394	56,314		
301+17,135				-8,940	36,897	-3,000	37,165	37,236	-0,071	2,300	37,096	-3,000	21,793	53,883		
302+0,000				-9,855	36,941	-3,000	37,237	37,339	-0,102	2,300	37,168	-3,000	20,802	52,965		
302+10,000				-5,500	37,342	-3,000	37,507	36,601	0,906	2,300	37,438	-3,000	7,296	42,819		
303+0,000				-5,500	37,638	-3,000	37,803	34,357	3,446	2,300	37,734	-3,000	4,321	36,771		
303+4,604	PRC			-5,500	37,776	-3,000	37,941	34,202	3,739	2,300	37,872	-3,000	5,405	36,187		
303+9,600				-5,500	37,926	-3,000	38,091	33,872	4,219	2,300	38,022	-3,000	8,288	34,414		
303+10,000				-5,500	37,938	-3,000	38,103	33,509	4,594	2,300	38,034	-3,000	8,586	34,228		
303+14,596	PRC			-5,500	38,075	-3,000	38,240	31,645	6,595	2,300	38,171	-3,000	9,408	33,818		
303+15,570				-5,500	38,105	-3,000	38,270	31,231	7,039	2,300	38,201	-3,000	9,408	33,847		
304+0,000				-5,500	38,238	-3,000	38,403	30,717	7,686	2,300	38,334	-3,000	10,103	33,517		
304+10,000				-7,245	38,485	-3,000	38,703	33,168	5,535	2,300	38,634	-3,000	12,126	32,468		
305+0,000				-7,903	38,766	-3,000	39,003	37,419	1,584	2,300	38,934	-3,000	14,878	30,933		
305+5,834				-6,203	38,992	-3,000	39,178	37,530	1,648	2,300	39,109	-3,000	15,593	30,632		
305+10,000				-5,470	39,139	-3,000	39,303	37,771	1,532	2,300	39,234	-3,000	5,097	37,754		
306+0,000				-3,306	39,504	-3,000	39,603	39,177	0,426	2,300	39,534	-3,000	5,133	38,030		
306+10,000				-3,300	39,804	-3,000	39,903	40,318	-0,415	2,300	39,834	-3,000	5,178	38,300		
306+17,072				-3,300	40,016	-3,000	40,115	39,084	1,031	2,300	40,046	-3,000	5,262	38,456		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito				
		OFFSET		BORDO		Cota Vermelha	Cota Terreno	Cota Projeto	Distância (m)	Cota (m)	Distância (m)	Cota (m)	Distância (m)	Cota (m)	OFFSET
		Distância (m)	Cota (m)	Distância (m)	Cota (m)										
400+0,000				-14,239	38,198	38,340	33,704	4,636	4,500	38,205	-3,000				
400+10,000				-14,297	38,302	38,445	33,808	4,637	10,487	38,140	-1,000				
401+0,000				-14,145	38,408	38,550	35,411	3,139	9,657	38,260	-3,000				
401+10,000				-13,195	38,521	38,653	34,848	3,805	4,500	38,518	-3,000				
401+19,273				-13,195	38,583	38,715	31,148	7,567	4,500	38,580	-3,000				
402+0,000				-13,650	38,582	38,718	35,403	3,315	5,947	38,540	-3,000				
402+7,124				-13,528	38,597	38,732	36,020	2,712	13,305	38,399	-1,000				
402+10,000				-13,360	38,597	38,730	36,358	2,372	13,053	38,400	-1,000				
403+0,000				-13,579	38,554	38,690	36,995	1,695	4,594	38,552	-3,000				
403+10,000				-13,668	38,462	38,598	36,826	1,772	5,806	38,424	-3,000				
404+0,000				-14,060	38,351	38,492	37,062	1,430	13,514	38,157	-1,000				
404+10,000				-14,267	38,243	38,385	34,091	4,294	5,309	38,226	-3,000				
404+14,248				-14,239	38,243	38,385	33,704	4,681	4,500	38,250	-3,000				



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***4.4 – NOTAS DE SERVIÇO DE PAVIMENTAÇÃO –  
EIXO DA RODOVIA***

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Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		Distância (m)	Cota (m)	Distância (m)	Cota (m)	OFFSET	
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				(%)	(%)						
0+0,000		-6,111	34,796	-5,600	35,136	0,000	34,191	0,945	5,600	35,136	0,000	8,209	33,397			
1+0,000		-5,899	34,911	-5,600	35,110	-3,000	33,897	1,381	5,600	35,110	-3,000	7,963	33,534			
2+0,000		-6,674	34,536	-5,600	35,251	-3,000	33,538	1,881	5,600	35,251	-3,000	9,533	32,629			
3+0,000		-6,986	34,504	-5,600	35,428	-2,370	33,455	2,106	5,600	35,393	-3,000	9,810	32,586			
3+8,873	TS	-6,923	34,742	-5,600	35,624	0,000	33,384	2,240	5,600	35,456	-3,000	9,259	33,016			
3+10,000		-6,954	34,790	-5,665	35,649	0,300	33,375	2,257	5,598	35,464	-3,000	9,234	33,040			
4+0,000		-7,008	35,137	-5,996	35,877	2,970	33,410	2,292	5,930	35,524	-3,000	9,479	33,158			
4+10,000		-6,690	35,617	-5,952	36,109	5,640	34,489	1,284	6,398	35,412	-5,650	9,436	33,387			
4+18,873	SC	-6,733	36,126	-6,400	36,348	8,000	34,798	1,038	6,400	35,324	-8,000	9,361	33,350			
5+0,000		-6,665	36,180	-6,400	36,356	8,000	34,815	1,029	6,400	35,332	-8,000	9,396	33,335			
5+1,859		-6,570	36,256	-6,400	36,369	8,000	34,832	1,025	6,400	35,345	-8,000	9,440	33,319			
5+4,846	CS	-6,497	36,326	-6,400	36,390	8,000	34,829	1,049	6,400	35,366	-8,000	9,467	33,322			
5+10,000		-6,402	36,130	-6,117	36,320	6,630	34,791	1,124	6,404	35,490	-6,630	9,584	33,370			
6+0,000		-6,579	35,833	-5,995	36,223	3,960	34,825	1,161	5,997	35,748	-3,960	9,399	33,480			
6+10,000		-6,390	35,780	-5,862	36,132	1,290	34,749	1,307	5,591	35,871	-3,310	8,990	33,605			
6+14,846	ST	-6,163	35,715	-5,600	36,091	0,000	34,698	1,393	5,600	35,923	-3,000	9,049	33,623			
7+0,000		-6,165	35,674	-5,600	36,050	-1,370	34,655	1,472	5,600	35,959	-3,000	9,341	33,465			
8+0,000		-5,829	36,330	-5,600	36,101	-3,000	34,059	2,210	5,600	36,104	-2,950	9,121	33,756			
8+14,773	TS	-6,666	37,271	-5,600	36,205	-3,000	34,669	1,704	5,600	36,373	0,000	8,934	34,150			
9+0,000		-6,734	37,510	-5,471	36,246	-3,000	34,929	1,481	5,690	36,470	1,050	8,978	34,278			
9+10,000		-7,255	37,900	-5,607	36,252	-4,030	35,482	0,995	5,733	36,652	3,050	9,234	34,318			
10+0,000		-6,255	36,017	-5,957	36,216	-5,050	35,939	0,578	5,887	36,814	5,050	9,222	34,591			
10+4,773	SC	-6,179	36,106	-6,100	36,159	-6,000	36,130	0,395	6,100	36,891	6,000	9,556	34,587			
10+10,000		-6,250	36,310	-6,100	36,160	-6,000	36,114	0,412	6,100	36,892	6,000	9,644	34,529			
10+18,579		-6,542	36,585	-6,100	36,143	-6,000	36,150	0,359	6,100	36,875	6,000	9,406	34,671			
11+0,000		-6,535	36,572	-6,100	36,137	-6,000	36,159	0,345	6,100	36,869	6,000	9,326	34,719			
11+10,000		-6,499	36,483	-6,100	36,084	-6,000	36,348	0,102	6,100	36,816	6,000	8,756	35,046			
11+12,386	CS	-6,494	36,461	-6,100	36,067	-6,000	36,424	0,009	6,100	36,799	6,000	8,723	35,050			
12+0,000		-6,274	36,390	-5,982	36,098	-4,480	36,260	0,106	6,020	36,636	4,480	8,292	35,121			

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)	(%)		
12+10,000		-5,744	36,136	-5,696	36,088	-2,850	36,251	0,138	36,113	5,986	36,399	2,480	8,038	35,031		
13+0,000		-5,802	35,885	-5,569	36,040	-1,230	36,108	0,165	35,943	5,730	36,136	0,480	7,251	35,122		
13+2,386	ST	-5,806	35,890	-5,600	36,027	-0,830	36,073	0,215	35,858	5,600	36,073	0,000	6,974	35,157		
13+7,232	TS	-5,757	35,898	-5,600	36,002	0,000	36,002	0,305	35,697	5,600	35,948	-0,970	6,738	35,189		
13+10,000		-5,745	35,939	-5,670	35,989	0,470	35,962	0,307	35,655	5,600	35,883	-1,410	6,617	35,205		
14+0,000		-6,108	36,296	-5,770	35,958	2,180	35,832	0,352	35,480	5,762	35,659	-3,000	6,581	35,113		
14+10,000		-6,018	35,835	-5,830	35,961	3,890	35,734	0,359	35,375	5,970	35,482	-4,230	6,591	35,068		
14+17,232	SC	-6,214	35,849	-6,000	35,991	5,120	35,684	0,375	35,309	6,000	35,377	-5,120	6,341	35,149		
15+0,000		-6,206	35,839	-6,000	35,976	5,120	35,669	0,389	35,280	6,000	35,362	-5,120	6,305	35,159		
15+10,000		-6,414	35,668	-6,000	35,944	5,120	35,637	0,435	35,202	6,000	35,330	-5,120	6,422	35,048		
16+0,000		-6,460	35,637	-6,000	35,944	5,120	35,637	0,399	35,238	6,000	35,330	-5,120	6,590	34,936		
16+10,000		-6,729	35,491	-6,000	35,977	5,120	35,669	0,363	35,306	6,000	35,362	-5,120	6,590	34,969		
16+11,735		-6,728	35,500	-6,000	35,985	5,120	35,678	0,355	35,323	6,000	35,371	-5,120	6,559	34,998		
17+0,000		-6,458	35,720	-6,000	36,025	5,120	35,718	0,321	35,397	6,000	35,411	-5,120	6,525	35,061		
17+10,000		-6,386	35,817	-6,000	36,074	5,120	35,767	0,290	35,477	6,000	35,460	-5,120	6,502	35,125		
18+0,000		-6,200	35,989	-6,000	36,123	5,120	35,816	0,259	35,557	6,000	35,508	-5,120	6,514	35,166		
18+6,239	CS	-6,064	36,119	-6,000	36,162	5,120	35,855	0,252	35,603	6,000	35,548	-5,120	6,683	35,092		
18+10,000		-6,094	36,412	-5,830	36,148	4,480	35,887	0,239	35,648	5,899	35,619	-4,540	6,446	35,254		
19+0,000		-6,753	37,265	-5,646	36,158	2,770	36,002	0,230	35,772	5,600	35,834	-3,000	5,905	35,630		
19+10,000		-7,285	37,869	-5,637	36,221	1,060	36,161	0,219	35,942	5,472	35,997	-3,000	5,591	36,115		
19+16,239	ST	-7,686	38,369	-5,600	36,283	0,000	36,283	0,219	36,064	5,600	36,115	-3,000	5,856	36,371		
20+0,000		-12,954	39,657	-9,600	36,303	-0,640	36,364	0,226	36,138	5,600	36,196	-3,000	5,941	36,537		
21+0,000		-18,959	45,847	-9,600	36,488	-3,000	36,776	0,178	36,598	5,600	36,608	-3,000	6,058	37,066		
22+0,000		-25,474	49,407	-9,600	36,623	-3,000	36,911	-1,229	38,140	5,600	36,743	-3,000	5,719	36,862		
23+0,000		-17,825	44,943	-9,600	36,717	-0,130	36,730	-1,082	37,812	5,600	36,562	-3,000	5,661	36,521		
23+0,510	TS	-17,725	44,846	-9,600	36,721	0,000	36,721	-1,080	37,801	5,600	36,553	-3,000	5,669	36,507		
23+10,000		-15,640	42,460	-9,932	36,751	2,320	36,521	-0,988	37,509	5,642	36,303	-3,860	5,692	36,353		
24+0,000		-12,982	39,750	-9,980	36,748	4,770	36,272	-0,912	37,184	5,999	35,986	-4,770	6,196	36,183		
24+10,000		-11,756	38,371	-10,180	36,795	7,220	36,060	-0,863	36,923	6,202	35,611	-7,220	6,433	35,842		



Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
24+10,510	SC	-11,772	38,372	-10,200	36,800	7,350	36,051	36,808	-0,757	6,200	35,595	-7,350	6,425	35,820		
25+0,000		-11,655	38,124	-10,200	36,669	7,350	35,919	36,032	-0,113	6,200	35,464	-7,350	6,658	35,921		
25+0,118		-11,649	38,117	-10,200	36,668	7,350	35,918	36,015	-0,097	6,200	35,462	-7,350	6,660	35,923		
25+9,727	CS	-11,140	37,542	-10,200	36,602	7,350	35,852	35,191	0,661	6,200	35,396	-7,350	6,478	35,674		
25+10,000		-11,131	37,537	-10,189	36,594	7,290	35,851	35,174	0,677	6,207	35,399	-7,290	6,458	35,649		
26+0,000		-10,587	37,155	-9,796	36,364	5,190	35,856	34,761	1,095	6,191	35,534	-5,190	6,962	35,020		
26+10,000		-5,774	35,990	-5,600	36,105	3,100	35,932	34,581	1,351	5,934	35,748	-3,100	8,237	34,213		
26+19,727	ST	-6,803	35,333	-5,600	36,135	1,060	36,076	34,487	1,589	5,907	36,013	-1,060	8,156	34,514		
27+0,000		-6,835	35,313	-5,600	36,137	1,000	36,081	34,485	1,596	5,907	36,022	-1,000	8,159	34,520		
27+5,882	PC	-7,474	34,940	-5,600	36,189	-0,230	36,202	34,446	1,756	5,854	36,215	0,230	8,303	34,583		
27+10,000		-7,837	34,753	-5,600	36,244	-1,040	36,302	34,416	1,886	5,806	36,362	1,040	8,525	34,549		
28+0,000		-8,783	34,305	-5,600	36,427	-3,000	36,595	34,337	2,258	5,800	36,769	3,000	9,215	34,493		
28+10,000		-9,855	33,920	-5,600	36,756	-3,000	36,924	34,298	2,626	5,800	37,098	3,000	9,672	34,517		
29+0,000		-10,395	33,860	-5,600	37,057	-3,000	37,225	34,240	2,985	5,800	37,399	3,000	9,913	34,656		
29+8,049		-10,811	33,782	-5,600	37,256	-3,000	37,424	34,195	3,229	5,800	37,598	3,000	9,891	34,870		
29+10,000		-10,866	33,788	-5,600	37,299	-3,000	37,467	34,183	3,284	5,800	37,641	3,000	9,899	34,908		
30+0,000		-11,130	33,796	-5,600	37,482	-3,000	37,651	34,120	3,531	5,800	37,824	3,000	10,017	35,013		
30+10,000		-11,373	33,759	-5,600	37,608	-3,000	37,776	34,102	3,674	5,800	37,944	2,890	9,994	35,148		
31+0,000		-11,681	33,622	-5,600	37,675	-3,000	37,844	34,063	3,781	5,800	38,005	2,780	9,926	35,254		
31+10,000		-12,221	33,271	-5,600	37,685	-3,000	37,853	34,005	3,848	5,800	37,970	2,030	9,898	35,238		
31+10,215	PT	-12,232	33,263	-5,600	37,684	-3,000	37,852	34,003	3,849	5,800	37,969	2,010	9,896	35,239		
32+0,000		-12,519	33,023	-5,600	37,636	-3,000	37,804	33,942	3,862	5,712	37,919	2,010	9,744	35,231		
33+0,000		-12,067	33,052	-5,600	37,363	-3,000	37,531	33,956	3,575	5,668	37,645	2,010	9,420	35,144		
33+14,619	PC	-10,884	33,500	-5,600	37,023	-3,000	37,191	34,082	3,109	5,800	37,307	2,010	8,907	35,236		
34+0,000		-10,531	33,599	-5,600	36,887	-3,000	37,055	34,145	2,910	5,800	37,190	2,330	8,641	35,296		
34+10,000		-10,035	33,716	-5,600	36,672	-3,000	36,840	34,223	2,617	5,800	36,995	2,660	8,203	35,393		
35+0,000		-9,603	33,864	-5,600	36,533	-3,000	36,701	34,345	2,356	5,800	36,875	3,000	7,873	35,493		
35+10,000		-9,281	34,015	-5,600	36,469	-3,000	36,637	34,451	2,186	5,800	36,811	3,000	7,593	35,616		
36+0,000		-8,908	34,276	-5,600	36,482	-3,000	36,650	34,560	2,090	5,800	36,824	3,000	7,253	35,855		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
36+1,078		-8,913	34,279	-5,600	36,487	-3,000	36,655	34,573	2,082	5,800	36,829	3,000	7,202	35,895		
36+10,000		-9,143	34,207	-5,600	36,569	-3,000	36,738	34,674	2,064	5,800	36,911	3,000	6,695	36,315		
37+0,000		-9,414	34,191	-5,600	36,733	-3,000	36,901	34,841	2,060	5,800	37,075	3,000	6,361	36,701		
37+10,000		-10,276	33,869	-5,600	36,986	-2,750	37,140	34,989	2,151	5,800	37,298	2,730	6,572	38,070		
38+0,000		-11,526	33,365	-5,600	37,316	-2,490	37,455	36,004	1,451	5,800	37,598	2,460	9,336	41,134		
38+7,536	PT	-13,024	32,659	-5,600	37,608	-2,010	37,721	36,966	0,755	5,800	37,837	2,010	11,657	43,695		
39+0,000		-11,155	34,348	-5,600	38,051	-1,060	38,111	39,611	-1,500	5,784	38,172	1,060	15,291	47,678		
40+0,000		-9,414	35,901	-5,600	38,443	0,470	38,417	42,491	-4,074	5,759	38,390	-0,470	26,185	55,726		
41+0,000		-8,142	36,742	-5,600	38,437	2,000	38,325	43,015	-4,690	5,734	38,210	-2,000	27,652	57,037		
41+0,192	PC	-8,125	36,751	-5,600	38,434	2,010	38,322	43,015	-4,693	5,734	38,207	-2,010	27,655	57,038		
41+10,000		-7,218	37,169	-5,600	38,247	2,110	38,129	42,479	-4,350	5,734	38,008	-2,110	26,505	55,689		
42+0,000		-7,098	37,212	-5,600	38,210	2,130	38,091	42,332	-4,241	5,735	37,969	-2,130	26,276	55,420		
42+0,000		-6,506	37,354	-5,600	37,958	2,220	37,833	37,791	0,042	5,748	37,706	-2,220	24,097	52,964		
42+2,790	PT	-6,234	37,423	-5,600	37,846	2,010	37,733	37,412	0,321	5,748	37,561	-3,000	23,378	52,101		
43+0,000		0,000	0,000	-5,600	37,049	0,720	37,009	35,704	1,305	5,600	36,841	-3,000	6,416	37,657		
44+0,000		-12,446	31,893	-5,600	36,457	-0,780	36,501	33,783	2,718	5,600	36,333	-3,000	6,621	37,354		
45+0,000		-12,974	31,571	-5,600	36,487	-0,270	36,502	37,648	-1,146	5,600	36,334	-3,000	6,904	37,638		
46+0,000		-6,637	37,857	-5,720	36,940	1,230	36,870	38,130	-1,260	5,720	36,698	-3,000	28,154	56,043		
46+0,352																
46+10,356	PC															
46+17,927																
47+0,000																
47+5,499	PT															
48+0,000																
48+1,631	PC															
48+10,000																
49+0,000																
49+0,606																
49+10,000																

RÓTULA DE INTERSEÇÃO COM O TRECHO 04

**RÓTULA DE INTERSEÇÃO COM O TRECHO 04**

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito			
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET			
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	Distância (m)	Cota (m)		
49+13,648		-18,459	32,485	-6,419	40,512	6,970	40,064	38,228	1,836	6,171	39,634	-6,970	24,720	55,094
50+0,000		-19,623	31,857	-6,231	40,784	6,540	40,377	38,486	1,891	6,163	39,974	-6,540	24,282	55,004
50+10,000		-20,286	31,639	-6,091	41,102	6,100	40,730	38,821	1,909	6,140	40,356	-6,100	16,011	50,227
51+0,000		-20,453	31,610	-6,100	41,179	6,000	40,813	38,888	1,925	6,100	40,447	-6,000	15,593	49,939
51+5,665	PT	-20,870	31,643	-6,100	41,489	6,000	41,123	39,169	1,954	6,100	40,757	-6,000	14,847	49,504
51+7,565	PC	-24,412	31,682	-6,100	41,800	6,000	41,434	39,432	2,002	6,100	41,068	-6,000	13,098	48,066
51+10,000		-24,593	31,685	-6,100	41,923	6,000	41,557	39,522	2,035	6,100	41,191	-6,000	12,462	47,553
52+0,000		-25,251	31,720	-6,100	42,397	6,000	42,031	39,932	2,099	6,100	41,665	-6,000	10,619	46,184
52+8,509		-25,409	31,730	-6,100	42,513	6,000	42,147	40,038	2,109	6,100	41,781	-6,000	10,399	46,080
52+10,000		-25,615	31,763	-5,918	42,804	4,470	42,540	40,437	2,103	6,011	42,271	-4,470	9,687	45,947
53+0,000		-25,968	31,882	-5,858	43,199	2,470	43,054	40,933	2,121	5,734	42,888	-2,890	8,365	45,520
53+9,452	PT	-25,965	32,168	-5,690	43,595	0,470	43,568	41,431	2,137	5,581	43,495	-1,310	7,924	45,838
53+12,186	TS	-25,904	32,242	-5,600	43,688	0,000	43,688	41,545	2,143	5,600	43,649	-0,690	7,828	45,878
54+0,000		-25,944	32,321	-5,600	43,793	-0,520	43,822	41,673	2,149	5,600	43,822	0,000	7,617	45,839
54+10,000		-26,170	32,428	-5,698	43,986	-1,690	44,082	41,921	2,161	5,753	44,160	1,340	7,439	45,845
55+0,000		-26,526	32,831	-6,152	44,323	-4,000	44,570	42,355	2,215	5,779	44,801	4,000	7,055	46,077

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		(%)	Distância (m)	Cota (m)		
59+10,000		-26,551	33,244	-6,419	44,575	-6,660	45,003	2,305	42,698	2,305	45,399	6,660	8,754	48,198		
59+14,937	SC	-26,484	33,329	-6,300	44,695	-7,970	45,197	2,347	42,650	2,347	45,699	7,970	10,489	49,888		
59+18,125		-26,675	33,319	-6,300	44,813	-7,970	45,315	2,380	42,935	2,380	45,817	7,970	11,595	51,112		
60+0,000		-26,793	33,308	-6,300	44,880	-7,970	45,382	2,399	42,983	2,399	45,884	7,970	12,644	52,228		
60+1,313	CS	-26,877	33,298	-6,300	44,926	-7,970	45,428	2,413	43,015	2,413	45,930	7,970	13,361	52,991		
60+10,000		-27,529	33,181	-6,125	45,361	-5,660	45,708	2,462	43,246	2,462	46,047	5,660	23,687	60,654		
61+0,000		-27,686	33,222	-5,671	45,808	-3,010	45,979	2,398	43,581	2,398	46,158	3,010	26,342	63,448		
61+10,000		-28,760	32,650	-5,555	46,030	-3,000	46,197	1,553	44,644	1,553	46,216	0,350	28,081	65,521		
61+11,313	ST	-28,906	32,606	-5,600	46,053	-3,000	46,221	1,405	44,816	1,405	46,221	0,000	28,125	65,656		
62+0,000		-29,352	32,448	-5,600	46,192	-3,000	46,360	-0,031	46,391	-0,031	46,231	-2,310	36,352	70,803		
62+18,701	TS	-7,822	45,040	-5,600	46,522	0,000	46,522	-3,046	49,568	-3,046	46,354	-3,000	39,505	74,079		
63+0,000		-7,807	45,115	-5,671	46,538	0,220	46,526	-3,235	49,761	-3,235	46,359	-3,000	39,663	74,279		
63+10,000		-7,403	45,668	-5,939	46,643	1,940	46,528	-3,585	50,113	-3,585	46,342	-3,330	39,990	74,571		
64+0,000		-6,669	46,194	-5,922	46,693	3,660	46,476	-3,234	49,710	-3,234	46,260	-3,660	41,051	75,234		
64+10,000		-30,767	32,220	-5,928	46,689	5,380	46,370	-2,162	48,532	-2,162	46,036	-5,380	41,284	74,945		
64+18,701	SC	-30,677	32,432	-6,200	46,660	6,880	46,234	-1,978	48,212	-1,978	45,807	-6,880	41,428	74,855		
65+0,000		-30,570	32,480	-6,200	46,637	6,880	46,210	-1,974	48,184	-1,974	45,783	-6,880	41,471	74,874		
65+3,234		-30,380	32,544	-6,200	46,573	6,880	46,147	-1,676	47,823	-1,676	45,720	-6,880	41,630	74,970		
65+7,766	CS	-30,136	32,608	-6,200	46,475	6,880	46,049	-1,500	47,549	-1,500	45,622	-6,880	41,977	75,219		
65+10,000		-29,930	32,575	-6,071	46,391	6,500	45,996	-1,450	47,446	-1,450	45,589	-6,500	48,360	78,413		
66+0,000		-29,455	32,335	-5,814	46,006	4,770	45,729	-1,429	47,158	-1,429	45,431	-4,770	42,215	75,218		
66+10,000		-6,280	45,291	-5,839	45,585	3,050	45,407	-1,205	46,612	-1,205	45,208	-3,350	48,123	78,130		
67+0,000		-28,546	32,081	-5,828	45,136	1,340	45,058	-0,431	45,489	-0,431	44,950	-1,930	41,500	74,644		
67+7,766	ST	-27,278	32,426	-5,600	44,788	0,000	44,788	0,242	44,546	0,242	44,727	-1,080	40,837	73,784		
68+0,000		-26,360	32,494	-5,600	44,244	-2,100	44,361	0,941	43,420	0,941	44,352	-0,170	39,980	72,552		
68+1,909	TS	-26,163	32,508	-5,600	44,127	-3,000	44,295	0,981	43,314	0,981	44,295	0,000	39,822	72,336		
68+10,000		-25,668	32,555	-5,598	43,845	-3,000	44,013	1,171	42,842	1,171	44,055	0,710	39,959	71,881		
69+0,000		-24,983	32,790	-5,797	43,490	-3,000	43,664	1,537	42,127	1,537	43,761	1,590	39,791	71,284		
69+10,000		-20,943	33,217	-6,085	43,122	-3,180	43,316	1,835	41,481	1,835	43,464	2,470	6,378	43,223		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		(%)	Distância (m)	Cota (m)		
70+0,000		-20,649	33,204	-6,322	42,755	-3,350	42,967	41,058	1,909	5,874	43,164	3,350	6,117	43,002		
70+10,000		-20,145	33,167	-6,372	42,349	-4,230	42,618	40,666	1,952	5,801	42,864	4,230	38,730	69,613		
71+0,000		-19,254	33,189	-6,100	41,958	-5,110	42,270	40,160	2,110	5,938	42,573	5,110	39,936	70,392		
71+1,909	SC	-19,047	33,188	-6,000	41,886	-5,280	42,203	40,062	2,141	6,000	42,520	5,280	40,078	70,418		
71+10,000		-18,565	33,228	-6,000	41,604	-5,280	41,921	39,507	2,414	6,000	42,238	5,280	40,443	70,501		
72+0,000		-18,303	33,054	-6,000	41,256	-5,280	41,573	38,755	2,818	6,000	41,889	5,280	41,111	70,821		
72+9,182		-17,500	33,269	-6,000	40,936	-5,280	41,253	38,151	3,102	6,000	41,569	5,280	49,780	76,080		
72+10,000		-17,389	33,315	-6,000	40,907	-5,280	41,224	38,102	3,122	6,000	41,541	5,280	49,775	76,046		
73+0,000		-15,727	34,074	-6,000	40,559	-5,280	40,876	37,579	3,297	6,000	41,192	5,280	41,723	70,735		
73+10,000		-15,304	34,008	-6,000	40,210	-5,280	40,527	37,250	3,277	6,000	40,844	5,280	14,732	49,576		
73+16,455	CS	-14,996	33,988	-6,000	39,985	-5,280	40,302	37,016	3,286	6,000	40,619	5,280	12,266	46,885		
74+0,000		-14,950	33,989	-6,121	39,874	-4,970	40,179	36,860	3,319	5,909	40,472	4,970	10,493	45,056		
74+10,000		-14,597	34,010	-6,223	39,593	-4,090	39,848	36,503	3,345	5,811	40,086	4,090	9,336	43,610		
75+0,000		-14,234	33,918	-6,074	39,359	-3,210	39,554	36,139	3,415	5,838	39,741	3,210	8,020	41,923		
75+10,000		-13,894	33,725	-5,810	39,115	-3,110	39,295	35,806	3,489	5,850	39,431	2,330	5,945	39,368		
76+0,000		-13,805	33,416	-5,570	38,906	-3,000	39,073	35,506	3,567	5,709	39,156	1,450	6,593	38,566		
76+10,000		-13,585	33,329	-5,494	38,722	-3,000	38,887	35,293	3,594	5,617	38,919	0,570	6,862	38,089		
76+16,455	ST	-13,506	33,347	-5,600	38,618	-3,000	38,786	35,136	3,650	5,600	38,786	0,000	6,992	37,858		
77+0,000		-13,414	33,360	-5,600	38,569	-3,000	38,737	35,041	3,696	5,600	38,720	-0,310	7,095	37,723		
78+0,000		-12,434	33,822	-5,600	38,377	-3,000	38,545	34,815	3,730	5,600	38,429	-2,070	8,148	36,731		
79+0,000		-12,469	33,751	-5,600	38,330	-3,000	38,498	34,935	3,563	5,600	38,330	-3,000	10,068	35,352		
79+10,000		-11,599	34,361	-5,600	38,361	-3,000	38,529	35,046	3,483	5,600	38,361	-3,000	11,465	34,451		
80+0,000		-10,335	35,271	-5,600	38,427	-3,000	38,595	35,150	3,445	5,600	38,427	-3,000	13,549	33,128		
81+0,000		-6,467	38,091	-5,600	38,669	-3,000	38,837	35,487	3,350	5,600	38,669	-3,000	11,999	34,403		
82+0,000		-12,990	46,445	-5,600	39,055	-3,000	39,223	35,881	3,342	5,600	39,198	-0,450	13,033	34,242		
82+3,173	TS	-13,343	46,871	-5,600	39,128	-3,000	39,296	35,967	3,329	5,600	39,296	0,000	13,103	34,294		
82+8,297		-13,343	46,988	-5,600	39,245	-3,000	39,413	36,106	3,307	5,600	39,413	0,000	13,103	34,411		
82+10,000		-14,188	47,889	-5,584	39,285	-3,000	39,452	36,152	3,300	5,767	39,508	0,970	13,485	34,363		
83+0,000		-25,816	56,433	-5,800	39,507	-3,000	39,682	36,707	2,975	5,801	39,820	2,390	13,848	34,455		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		(%)	Distância (m)	Cota (m)		
83+10,000		-28,754	59,312	-6,059	39,708	-4,120	39,957	2,874	37,083	2,874	5,820	40,179	3,820	10,568	37,014	
84+0,000		-37,444	65,176	-6,095	40,007	-5,240	40,326	2,484	37,842	2,484	6,057	40,644	5,240	9,368	38,436	
84+10,000		-39,374	67,398	-6,174	40,377	-6,660	40,788	1,949	38,839	1,949	6,071	41,193	6,660	8,726	39,423	
84+13,173	SC	-39,945	68,079	-6,200	40,514	-7,110	40,955	1,684	39,271	1,684	6,200	41,395	7,110	8,481	39,875	
85+0,000		-40,944	69,467	-6,200	40,903	-7,110	41,344	1,156	40,188	1,156	6,200	41,785	7,110	18,235	33,761	
85+0,385		-41,003	69,549	-6,200	40,926	-7,110	41,367	1,042	40,325	1,042	6,200	41,808	7,110	18,311	33,734	
85+7,597	CS	-41,444	70,451	-6,200	41,387	-7,110	41,828	0,703	41,125	0,703	6,200	42,269	7,110	19,068	33,690	
85+10,000		-41,517	70,698	-6,212	41,572	-6,770	41,992	0,588	41,404	0,588	6,137	42,408	6,770	19,212	33,691	
86+0,000		-41,227	71,395	-6,062	42,410	-5,350	42,734	0,951	41,783	0,951	6,047	43,058	5,350	20,154	33,654	
86+10,000		-40,104	71,418	-5,787	43,281	-4,180	43,523	0,182	43,341	0,182	6,035	43,759	3,920	24,254	33,704	
87+0,000		-38,816	71,122	-5,655	44,141	-3,000	44,311	-1,715	46,026	-1,715	5,836	44,457	2,500	7,557	43,309	
87+10,000		-37,793	70,914	-5,612	44,913	-3,000	45,081	-4,357	49,438	-4,357	5,665	45,142	1,080	7,999	43,586	
87+17,597	ST	-37,090	70,784	-5,600	45,474	-3,000	45,642	-3,668	49,310	-3,668	5,600	45,642	0,000	8,318	43,830	
88+0,000		-36,878	70,746	-5,600	45,647	-3,000	45,815	-3,285	49,080	-3,285	5,600	45,796	-0,340	8,398	43,931	
89+0,000		-13,224	54,711	-5,600	47,087	-1,560	47,174	0,359	46,815	0,359	5,600	47,006	-3,000	28,668	33,717	
89+16,134	TS	-14,750	57,314	-5,600	48,164	0,000	48,164	0,186	47,978	0,186	5,600	47,996	-3,000	30,255	33,650	
90+0,000		-15,317	58,019	-5,707	48,409	0,370	48,388	0,308	48,080	0,308	5,558	48,221	-3,000	30,535	33,660	
90+10,000		-26,328	66,442	-5,813	49,018	1,340	48,940	0,599	48,341	0,599	5,617	48,771	-3,000	31,382	33,685	
91+0,000		-25,898	66,610	-5,788	49,590	2,310	49,456	0,478	48,978	0,478	5,801	49,282	-3,000	32,216	33,762	
91+10,000		-14,627	58,974	-5,778	50,125	3,280	49,936	0,798	49,138	0,798	5,960	49,720	-3,620	32,908	33,845	
92+0,000		-14,778	59,474	-5,934	50,630	4,240	50,379	0,942	49,437	0,942	5,949	50,127	-4,240	33,385	33,926	
92+6,134	SC	-14,927	59,850	-6,000	50,923	4,830	50,633	0,661	49,972	0,661	6,000	50,343	-4,830	34,955	33,130	
92+10,000		-14,785	59,861	-6,000	51,076	4,830	50,786	0,823	49,963	0,823	6,000	50,496	-4,830	32,793	34,724	
92+16,223		-14,482	59,793	-6,000	51,311	4,830	51,021	0,934	50,087	0,934	6,000	50,731	-4,830	32,702	35,020	
93+0,000		-14,178	59,625	-6,000	51,446	4,830	51,157	1,065	50,092	1,065	6,000	50,867	-4,830	32,644	35,194	
93+6,311	CS	-13,553	59,222	-6,000	51,669	4,830	51,379	1,244	50,135	1,244	6,000	51,089	-4,830	32,555	35,476	
93+10,000		-13,898	59,732	-5,941	51,775	4,470	51,509	1,069	50,440	1,069	5,998	51,241	-4,470	32,654	35,560	
94+0,000		-14,645	60,825	-5,888	52,068	3,510	51,862	0,117	51,745	0,117	5,892	51,655	-3,510	31,287	36,815	
94+10,000		-14,868	61,357	-5,875	52,364	2,540	52,214	-1,063	53,277	-1,063	5,752	52,027	-3,260	15,376	45,611	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
95+0,000		-12,111	59,016	-5,753	52,657	1,580	52,567	-0,997	53,564	5,728	52,395	-3,000	15,602	45,813		
95+10,000		-8,050	55,326	-5,678	52,954	0,610	52,919	0,670	52,249	5,587	52,751	-3,000	15,668	46,031		
95+16,311	ST	-5,744	53,046	-5,600	53,142	0,000	53,142	2,004	51,138	5,600	52,974	-3,000	15,641	46,280		
96+0,000		-6,584	52,595	-5,600	53,251	-0,360	53,272	3,249	50,023	5,600	53,104	-3,000	15,543	46,475		
97+0,000		-5,738	53,986	-5,600	53,848	-2,290	53,977	1,328	52,649	5,600	53,809	-3,000	15,447	47,244		
98+0,000		-10,287	59,064	-5,600	54,377	-3,000	54,545	-0,819	55,364	5,600	54,377	-3,000	14,799	48,244		
99+0,000		-12,246	61,319	-5,600	54,673	-3,000	54,841	-1,521	56,362	5,600	54,673	-3,000	13,796	49,209		
100+0,000		-13,241	62,337	-5,600	54,696	-3,000	54,864	-2,100	56,964	5,600	54,696	-3,000	12,416	50,152		
100+15,559	PC	-12,325	61,250	-5,600	54,525	-3,000	54,693	-1,600	56,293	5,600	54,525	-3,000	12,295	50,062		
101+0,000		-12,150	60,996	-5,600	54,446	-3,000	54,614	-1,461	56,075	5,600	54,446	-3,000	12,219	50,033		
101+10,000		-10,030	58,683	-5,600	54,253	-3,000	54,421	-0,855	55,276	5,600	54,253	-3,000	12,134	49,897		
102+0,000		-6,117	53,715	-5,600	54,060	-3,000	54,228	1,900	52,328	5,600	54,060	-3,000	11,993	49,798		
102+10,000		-7,968	52,288	-5,600	53,866	-3,000	54,034	3,227	50,807	5,600	53,866	-3,000	14,539	47,907		
102+18,204		-5,707	53,815	-5,600	53,708	-3,000	53,876	2,171	51,705	5,600	53,708	-3,000	17,568	45,730		
103+0,000		-6,520	54,593	-5,600	53,673	-3,000	53,841	1,799	52,042	5,600	53,673	-3,000	17,268	45,895		
103+10,000		-10,661	58,530	-5,600	53,468	-3,000	53,636	-0,480	54,116	5,600	53,468	-3,000	11,030	49,848		
104+0,000		-14,854	62,492	-5,600	53,239	-3,000	53,407	-2,593	56,000	5,600	53,239	-3,000	10,316	50,095		
104+10,000		-22,546	66,841	-5,600	52,985	-3,000	53,153	-4,095	57,248	5,600	53,017	-2,430	6,137	53,554		
105+0,000		-25,704	69,721	-5,600	52,708	-3,000	52,876	-5,529	58,405	5,600	52,771	-1,860	6,758	53,929		
105+0,849	PT	-25,923	69,916	-5,600	52,683	-3,000	52,851	-5,637	58,488	5,600	52,750	-1,800	6,798	53,949		
106+0,000		-35,674	75,975	-5,600	52,080	-3,000	52,248	-8,017	60,265	5,600	52,228	-0,360	7,567	54,195		
107+0,000		-39,208	78,689	-5,693	51,353	-3,000	51,524	-8,724	60,248	5,693	51,589	1,140	6,316	52,213		
107+11,586	PC	-39,926	78,833	-5,800	50,887	-3,000	51,061	-8,029	59,090	5,800	51,177	2,010	5,872	51,250		
108+0,000		-39,740	78,290	-5,800	50,530	-3,000	50,704	-7,399	58,103	5,800	50,857	2,640	5,932	50,989		
108+10,000		-39,699	77,802	-5,800	50,084	-3,000	50,258	-6,356	56,614	5,800	50,421	2,820	6,035	50,657		
108+19,086		-39,630	77,307	-5,800	49,657	-3,000	49,831	-5,865	55,696	5,800	50,004	2,980	6,157	50,361		
109+0,000		-39,678	77,311	-5,800	49,613	-3,000	49,787	-5,904	55,691	5,800	49,961	3,000	6,169	50,330		
109+10,000		-40,237	77,417	-5,800	49,160	-2,500	49,305	-6,690	55,995	5,800	49,449	2,500	6,311	49,960		
110+0,000		-40,933	77,660	-5,800	48,707	-1,990	48,822	-7,638	56,460	5,800	48,937	1,990	6,477	49,614		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	Distância (m)	(%)				
110+6,586	PT	-41,309	77,789	-5,800	48,460	-0,970	48,517	-6,353	54,870	5,800	48,573	0,970	6,415	49,188		
110+19,266	PC	-41,751	77,827	-5,800	48,056	0,970	48,000	-5,141	53,141	5,800	47,943	-0,970	6,289	48,432		
111+0,000		-41,768	77,824	-5,800	48,036	1,090	47,972	-5,140	53,112	5,800	47,909	-1,090	6,278	48,387		
111+10,000		-41,144	76,917	-5,800	47,753	2,040	47,634	-4,675	52,309	5,800	47,515	-2,040	6,107	47,822		
112+0,000		-39,533	75,080	-5,800	47,527	3,000	47,353	-3,387	50,740	5,800	47,179	-3,000	5,920	47,300		
112+10,000		-36,434	71,758	-5,800	47,304	3,000	47,130	-1,880	49,010	5,800	46,956	-3,000	5,935	46,866		
112+19,636		-27,001	65,255	-5,800	47,144	3,000	46,970	0,273	46,697	5,800	46,796	-3,000	6,371	46,415		
113+0,000		-26,766	65,014	-5,800	47,139	3,000	46,965	0,277	46,688	5,800	46,791	-3,000	6,379	46,405		
113+10,000		-6,516	46,554	-5,800	47,031	3,000	46,857	0,522	46,335	5,800	46,683	-3,000	6,404	46,280		
114+0,000		-6,586	46,457	-5,800	46,981	3,000	46,807	0,780	46,027	5,800	46,633	-3,000	6,441	46,206		
114+10,000		-11,458	43,159	-5,800	46,931	2,500	46,785	1,169	45,616	5,800	46,611	-3,000	6,527	46,127		
114+11,999		-11,458	43,154	-5,800	46,926	2,500	46,781	1,186	45,595	5,800	46,607	-3,000	6,527	46,123		
115+0,000		-14,539	41,055	-5,800	46,881	2,010	46,764	1,072	45,692	5,800	46,590	-3,000	6,386	46,200		
115+0,006	PT	-14,538	41,055	-5,800	46,881	2,010	46,764	1,072	45,692	5,800	46,590	-3,000	6,385	46,200		
116+0,000		-10,260	43,865	-5,800	46,838	2,010	46,721	1,156	45,565	5,800	46,547	-3,000	9,025	49,772		
116+0,603	PC	-10,389	43,778	-5,800	46,837	2,010	46,720	1,159	45,561	5,800	46,546	-3,000	9,017	49,764		
116+10,000		-11,445	43,087	-5,800	46,850	2,490	46,706	1,216	45,490	5,800	46,532	-3,000	8,920	49,653		
117+0,000		-11,569	43,031	-5,800	46,877	3,000	46,703	1,443	45,260	5,800	46,529	-3,000	6,442	46,101		
117+10,000		-13,112	42,011	-5,800	46,886	3,000	46,712	1,970	44,742	5,800	46,538	-3,000	8,031	45,050		
117+12,127		-13,123	42,007	-5,800	46,889	3,000	46,715	2,130	44,585	5,800	46,541	-3,000	8,271	44,894		
118+0,000		-13,068	42,061	-5,800	46,907	3,000	46,733	2,913	43,820	5,800	46,559	-3,000	9,474	44,109		
118+10,000		-12,874	42,203	-5,800	46,919	2,640	46,766	3,255	43,511	5,800	46,612	-2,640	9,693	44,017		
119+0,000		-12,733	42,321	-5,800	46,943	2,280	46,811	3,542	43,269	5,800	46,678	-2,280	9,972	43,897		
119+3,651	PT	-12,731	42,326	-5,800	46,947	2,010	46,830	3,577	43,253	5,800	46,713	-2,010	10,073	43,865		
120+0,000		-12,638	42,379	-5,800	46,937	0,010	46,937	3,600	43,337	5,800	46,936	-0,010	10,651	43,702		
120+16,456	PC	-12,740	42,334	-5,800	46,960	-2,010	47,077	3,500	43,577	5,800	47,193	2,010	10,484	44,071		
121+0,000		-12,733	42,357	-5,800	46,979	-2,280	47,111	3,490	43,621	5,800	47,243	2,280	10,353	44,208		
121+10,000		-12,785	42,407	-5,800	47,063	-2,640	47,217	3,294	43,923	5,800	47,370	2,640	10,267	44,392		
121+15,714		-12,811	42,443	-5,800	47,117	-2,850	47,282	3,218	44,064	5,800	47,447	2,850	9,584	44,925		



Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
122+0,000		-12,909	42,421	-5,800	47,160	-3,000	47,334	3,108	44,226	5,800	47,508	3,000	8,815	45,498		
122+10,000		-13,067	42,477	-5,800	47,322	-2,340	47,458	2,869	44,589	5,800	47,593	2,340	8,206	45,989		
122+14,973	PT	-13,150	42,503	-5,800	47,402	-2,010	47,519	2,811	44,708	5,800	47,635	2,010	8,047	46,138		
123+0,000		-13,048	42,598	-5,708	47,491	-1,580	47,581	2,688	44,893	5,708	47,671	1,580	7,780	46,290		
124+0,000		-13,601	42,628	-5,790	47,835	0,130	47,828	1,948	45,880	5,790	47,820	-0,130	6,523	47,332		
125+0,000		-14,013	42,705	-5,799	48,181	1,840	48,075	0,994	47,081	5,799	47,968	-1,840	13,998	56,167		
125+1,974	PC	-14,024	42,733	-5,800	48,216	2,010	48,099	0,902	47,197	5,800	47,982	-2,010	14,127	56,309		
125+10,000		-14,105	42,820	-5,823	48,341	2,450	48,198	0,525	47,673	5,823	48,055	-2,450	14,965	57,198		
126+0,000		-14,127	42,955	-5,816	48,496	3,000	48,322	0,094	48,228	5,816	48,147	-3,000	15,555	57,887		
126+4,454		-14,061	43,037	-5,800	48,544	2,900	48,377	-0,067	48,444	5,800	48,202	-3,000	15,514	57,917		
126+10,000		-14,010	43,111	-5,769	48,604	2,770	48,445	-0,183	48,628	5,769	48,272	-3,000	15,594	58,097		
127+0,000		-13,981	43,180	-5,683	48,712	2,530	48,568	-0,186	48,754	5,683	48,398	-3,000	15,022	57,737		
127+6,933	PT	-14,053	43,131	-5,600	48,767	2,010	48,654	-0,138	48,792	5,600	48,486	-3,000	5,905	48,791		
128+0,000		-14,192	43,145	-5,600	48,873	1,030	48,815	0,259	48,556	5,600	48,647	-3,000	5,769	48,816		
129+0,000		-13,065	44,059	-5,600	49,036	-0,470	49,062	3,258	45,804	5,600	48,894	-3,000	5,704	48,998		
129+16,097	TS	-13,417	44,050	-5,600	49,261	0,000	49,261	0,759	48,502	5,600	49,093	-3,000	5,712	49,205		
130+0,000		-14,046	43,847	-5,775	49,361	0,920	49,308	0,681	48,627	5,575	49,141	-3,000	5,625	49,191		
130+10,000		-15,112	43,480	-5,928	49,603	3,300	49,408	0,445	48,963	5,820	49,156	-4,340	5,831	49,166		
131+0,000		-15,540	43,458	-6,002	49,817	5,670	49,477	0,409	49,068	6,148	49,128	-5,670	15,188	58,168		
131+6,097	SC	-15,960	43,437	-6,200	49,944	7,110	49,503	0,439	49,064	6,200	49,062	-7,110	21,359	61,131		
131+10,000		-15,944	43,459	-6,200	49,955	7,110	49,514	0,452	49,062	6,200	49,073	-7,110	21,679	61,462		
131+12,052		-15,930	43,472	-6,200	49,958	7,110	49,518	0,466	49,052	6,200	49,077	-7,110	21,911	61,698		
131+18,008	CS	-15,921	43,482	-6,200	49,962	7,110	49,521	0,544	48,977	6,200	49,080	-7,110	23,351	63,141		
132+0,000		-15,721	43,500	-6,085	49,924	6,640	49,520	0,570	48,950	6,116	49,114	-6,640	23,334	63,241		
132+10,000		-12,826	45,081	-5,832	49,743	4,270	49,494	0,684	48,810	5,626	49,234	-4,630	23,324	63,842		
133+0,000		-6,913	48,797	-5,787	49,548	1,900	49,438	0,723	48,715	5,351	49,298	-2,620	23,297	64,155		
133+8,008	ST	-6,679	48,667	-5,600	49,386	0,000	49,387	0,744	48,643	5,600	49,306	-1,430	24,078	64,695		
133+17,662	TS	-11,488	45,271	-5,600	49,196	-2,290	49,324	0,826	48,498	5,600	49,324	0,000	23,574	64,208		
134+0,000		-13,065	44,165	-5,587	49,150	-2,840	49,309	0,849	48,460	5,680	49,329	0,350	23,561	64,120		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
134+10,000		-12,970	44,221	-5,698	49,069	-3,070	49,244	0,948	48,296	49,351	1,830	15,784	59,286			
135+0,000		-12,786	44,399	-5,909	48,984	-3,310	49,180	1,236	47,944	49,375	3,310	6,053	49,274			
135+7,662	SC	-12,557	44,492	-6,000	48,864	-4,440	49,130	1,481	47,649	49,396	4,440	6,750	48,897			
135+10,000		-12,499	44,516	-6,000	48,848	-4,440	49,115	1,566	47,549	49,381	4,440	7,005	48,711			
136+0,000		-12,067	44,739	-6,000	48,784	-4,440	49,050	1,507	47,543	49,317	4,440	7,419	48,371			
136+7,524		-11,722	44,920	-6,000	48,735	-4,440	49,002	1,735	47,267	49,268	4,440	7,188	48,476			
136+10,000		-11,619	44,973	-6,000	48,719	-4,440	48,986	1,741	47,245	49,252	4,440	7,093	48,523			
137+0,000		-10,099	45,922	-6,000	48,654	-4,440	48,921	1,391	47,530	49,187	4,440	6,309	48,982			
137+7,386	CS	-9,222	46,459	-6,000	48,607	-4,440	48,873	1,054	47,819	49,139	4,440	9,111	52,250			
137+10,000		-8,195	47,147	-5,995	48,613	-4,060	48,856	0,924	47,932	49,097	4,060	10,384	53,542			
138+0,000		-6,895	47,939	-5,842	48,641	-2,580	48,791	0,703	48,088	48,942	2,580	14,229	57,337			
138+10,000		-6,041	48,400	-5,644	48,665	-1,100	48,727	0,157	48,570	48,790	1,100	22,778	62,716			
138+17,386	ST	-5,634	48,713	-5,600	48,679	0,000	48,679	-0,785	49,464	48,679	0,000	24,170	64,159			
139+0,000		-5,731	48,815	-5,600	48,684	0,390	48,662	-1,256	49,918	48,640	-0,390	24,600	64,551			
139+9,505	PC	-5,941	49,054	-5,600	48,713	2,010	48,601	-2,285	50,886	48,488	-2,010	26,096	65,894			
139+10,000		-5,952	49,064	-5,600	48,711	2,040	48,597	-2,378	50,975	48,482	-2,060	26,167	65,959			
140+0,000		-6,238	49,313	-5,600	48,675	2,540	48,533	-3,387	51,920	48,365	-3,000	27,656	67,331			
140+9,143		-6,176	49,190	-5,600	48,613	2,500	48,474	-2,137	50,611	48,305	-3,000	26,698	66,313			
140+10,000		-6,159	49,167	-5,600	48,608	2,490	48,468	-2,051	50,519	48,300	-3,000	26,611	66,221			
141+0,000		-6,028	48,968	-5,600	48,540	2,450	48,403	-1,174	49,577	48,235	-3,000	25,602	65,147			
141+8,781	PT	-5,794	48,653	-5,600	48,459	2,010	48,347	-0,545	48,892	48,178	-3,000	24,130	63,619			
142+0,000		-5,707	48,463	-5,600	48,355	1,450	48,274	-0,336	48,610	48,106	-3,000	15,521	58,027			
143+0,000		-9,135	45,853	-5,600	48,210	0,450	48,184	-0,105	48,289	48,016	-3,000	12,718	55,135			
144+0,000		-9,831	45,410	-5,600	48,231	1,000	48,175	-0,189	48,364	48,007	-3,000	12,322	54,729			
145+0,000		-5,874	48,617	-5,600	48,343	1,750	48,245	-0,422	48,667	48,077	-3,000	21,538	60,925			
145+6,942	PC	-6,001	48,801	-5,600	48,401	2,010	48,288	-0,398	48,686	48,120	-3,000	23,241	62,671			
145+10,000		-5,674	48,503	-5,600	48,429	2,130	48,310	-0,376	48,686	48,142	-3,000	23,573	63,025			
146+0,000		-5,644	48,506	-5,600	48,535	2,500	48,395	-0,293	48,688	48,227	-3,000	24,710	64,247			
146+10,000		-5,758	48,532	-5,600	48,637	2,630	48,490	0,104	48,386	48,329	-2,880	23,470	63,109			

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)	(%)		
146+13,351		-5,904	48,468	-5,600	48,671	2,670	48,522	48,277	0,245	5,600	48,363	-2,830	22,997	62,670		
147+0,000		-6,917	47,861	-5,600	48,739	2,750	48,585	48,054	0,531	5,600	48,431	-2,750	21,929	61,671		
147+10,000		-8,638	46,788	-5,600	48,813	2,380	48,680	47,580	1,100	5,600	48,547	-2,380	13,270	56,217		
147+19,759	PT	-10,749	45,453	-5,600	48,885	2,010	48,773	47,134	1,639	5,600	48,660	-2,010	10,026	53,086		
148+0,000		-10,759	45,446	-5,600	48,885	1,960	48,775	47,125	1,650	5,600	48,665	-1,960	9,906	52,971		
148+10,259	TS	-10,826	45,389	-5,600	48,873	0,000	48,873	46,679	2,194	5,600	48,873	0,000	5,954	48,636		
149+0,000		-10,573	45,554	-5,504	48,933	-0,590	48,965	46,374	2,591	5,791	48,999	0,590	8,153	47,425		
149+10,000		-10,784	45,525	-5,580	48,993	-1,190	49,060	46,160	2,900	5,815	49,130	1,190	8,956	47,035		
150+0,000		-12,414	44,606	-5,746	49,052	-1,800	49,155	45,939	3,216	5,750	49,259	1,800	9,906	46,488		
150+6,997		-12,414	44,673	-5,746	49,118	-1,800	49,222	45,912	3,310	5,750	49,325	1,800	9,906	46,554		
150+10,000		-11,089	45,657	-5,912	49,108	-2,400	49,250	45,900	3,350	5,683	49,387	2,400	10,620	46,095		
151+0,000		-12,104	45,092	-5,994	49,165	-3,010	49,345	45,844	3,501	5,701	49,517	3,010	10,015	46,641		
151+10,000		-12,104	45,090	-5,905	49,222	-3,610	49,436	45,815	3,621	5,892	49,649	3,610	10,030	46,890		
151+10,259	SC	-12,101	45,090	-5,900	49,224	-3,630	49,438	45,814	3,624	5,900	49,652	3,630	10,049	46,886		
152+0,000		-12,307	45,032	-5,900	49,303	-3,630	49,518	45,775	3,743	5,900	49,732	3,630	10,860	46,425		
152+10,000		-12,283	45,122	-5,900	49,377	-3,630	49,591	45,778	3,813	5,900	49,805	3,630	10,023	47,057		
152+18,989		-12,260	45,195	-5,900	49,435	-3,630	49,649	45,769	3,880	5,900	49,864	3,630	9,038	47,771		
153+0,000		-12,258	45,203	-5,900	49,441	-3,630	49,656	45,767	3,889	5,900	49,870	3,630	8,959	47,830		
153+10,000		-12,269	45,251	-5,900	49,497	-3,630	49,711	45,927	3,784	5,900	49,926	3,630	8,713	48,050		
154+0,000		-12,295	45,281	-5,900	49,544	-3,630	49,759	46,120	3,639	5,900	49,973	3,630	8,377	48,322		
154+7,718	CS	-12,217	45,363	-5,900	49,575	-3,630	49,789	46,220	3,569	5,900	50,003	3,630	8,288	48,412		
154+10,000		-12,232	45,386	-5,929	49,589	-3,510	49,797	46,248	3,549	5,849	50,001	3,490	8,245	48,404		
155+0,000		-12,175	45,488	-5,933	49,649	-3,000	49,827	46,372	3,455	5,749	49,993	2,890	8,441	48,198		
155+10,000		-12,095	45,483	-5,803	49,678	-3,000	49,852	46,497	3,355	5,752	49,984	2,290	7,855	48,602		
156+0,000		-11,767	45,614	-5,624	49,709	-3,000	49,878	46,622	3,256	5,861	49,976	1,680	7,310	49,010		
156+10,000		-11,512	45,719	-5,483	49,739	-3,000	49,903	46,751	3,152	5,899	49,966	1,080	6,292	49,705		
157+0,000		-11,307	45,873	-5,469	49,764	-3,000	49,929	46,894	3,035	5,810	49,956	0,470	7,690	51,836		
157+7,718	ST	-11,516	45,836	-5,600	49,780	-3,000	49,948	47,051	2,897	5,600	49,948	0,000	8,681	53,029		
158+0,000		-11,542	45,850	-5,600	49,811	-3,000	49,979	47,304	2,675	5,600	49,938	-0,740	10,862	55,200		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
159+0,000		-11,520	45,915	-5,600	49,862	50,030	47,134	2,896	5,600	50,014	-0,280	10,564	54,978			
159+7,344	TS	-11,554	45,912	-5,600	49,881	50,049	47,022	3,027	5,600	50,049	0,000	6,091	49,721			
159+10,000		-11,570	45,910	-5,604	49,887	50,056	46,982	3,074	5,611	50,061	0,100	6,284	49,613			
160+0,000		-11,655	45,900	-5,636	49,912	50,081	46,836	3,245	5,633	50,108	0,480	8,554	48,161			
160+10,000		-11,883	45,796	-5,673	49,936	50,107	46,764	3,343	5,647	50,155	0,850	9,071	47,872			
161+0,000		-12,062	45,708	-5,682	49,961	50,132	46,714	3,418	5,684	50,202	1,230	11,185	46,534			
161+10,000		-11,702	45,974	-5,688	49,984	50,155	46,743	3,412	5,726	50,247	1,600	13,042	45,370			
162+0,000		-12,076	45,772	-5,732	50,001	50,173	46,855	3,318	5,731	50,286	1,980	11,993	46,112			
162+10,000		-12,032	45,847	-5,784	50,012	50,186	46,944	3,242	5,728	50,321	2,360	11,914	46,197			
163+0,000		-11,921	45,947	-5,812	50,019	50,194	46,987	3,207	5,750	50,351	2,730	11,965	46,207			
163+7,344	SC	-11,903	45,954	-5,800	50,022	50,196	46,955	3,241	5,800	50,370	3,000	11,624	46,488			
163+10,000		-11,902	45,955	-5,800	50,023	50,197	46,942	3,255	5,800	50,371	3,000	11,459	46,598			
164+0,000		-11,833	45,999	-5,800	50,021	50,195	46,952	3,243	5,800	50,369	3,000	10,809	47,029			
164+3,319		-11,773	46,037	-5,800	50,019	50,193	46,975	3,218	5,800	50,367	3,000	10,729	47,081			
164+10,000		-11,654	46,111	-5,800	50,014	50,188	47,021	3,167	5,800	50,362	3,000	10,532	47,207			
164+19,294	CS	-11,576	46,152	-5,800	50,003	50,177	47,153	3,024	5,800	50,351	3,000	10,040	47,524			
165+0,000		-11,581	46,148	-5,801	50,002	50,176	47,173	3,003	5,794	50,348	2,970	9,997	47,546			
165+10,000		-11,635	46,089	-5,787	49,988	50,161	47,441	2,720	5,748	50,311	2,590	9,422	47,861			
166+0,000		-11,554	46,107	-5,753	49,974	50,147	47,710	2,437	5,745	50,274	2,220	8,800	48,238			
166+10,000		-11,307	46,244	-5,732	49,961	50,133	47,971	2,162	5,755	50,239	1,850	8,350	48,509			
167+0,000		-11,134	46,355	-5,748	49,946	50,118	48,250	1,868	5,740	50,202	1,470	7,965	48,719			
167+10,000		-11,063	46,362	-5,707	49,932	50,104	48,597	1,507	5,673	50,166	1,090	6,561	49,574			
168+0,000		-10,985	46,362	-5,648	49,920	50,089	48,983	1,106	5,647	50,130	0,720	5,669	50,152			
168+10,000		-8,243	48,159	-5,603	49,919	50,075	49,444	0,631	5,632	50,094	0,350	7,841	52,303			
168+19,294	ST	-5,796	49,787	-5,600	49,918	50,061	49,883	0,178	5,600	50,061	0,000	10,072	54,533			
169+0,000		-5,742	49,824	-5,600	49,919	50,060	49,918	0,142	5,600	50,059	-0,030	10,258	54,717			
170+0,000		-6,454	50,799	-5,600	49,946	50,031	50,905	-0,874	5,600	49,988	-0,780	14,640	59,027			
171+0,000		-7,112	51,485	-5,600	49,973	50,003	51,823	-1,820	5,600	49,917	-1,530	22,169	63,396			
171+10,550	TS	-7,410	51,797	-5,600	49,987	49,987	52,093	-2,106	5,600	49,880	-1,920	22,461	63,650			

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
172+0,000		-8,829	53,154	-5,676	50,000	0,470	49,974	-2,388	52,362	49,845	5,629	49,845	-2,280	22,729	63,855	
172+10,000		-9,547	53,880	-5,682	50,014	0,970	49,959	-2,674	52,633	49,808	5,728	49,808	-2,640	23,097	64,087	
173+0,000		-10,118	54,455	-5,692	50,028	1,470	49,945	-2,906	52,851	49,770	5,814	49,770	-3,000	23,593	64,459	
173+10,000		-10,456	54,710	-5,790	50,044	1,970	49,930	-3,087	52,997	49,756	5,805	49,756	-3,000	23,836	64,697	
173+10,550	SC	-10,478	54,724	-5,800	50,045	2,000	49,930	-3,075	53,005	49,755	5,800	49,755	-3,000	23,846	64,711	
174+0,000		-10,389	54,648	-5,800	50,059	2,470	49,916	-3,075	52,991	49,742	5,800	49,742	-3,000	24,018	64,870	
174+10,000		-10,101	54,374	-5,800	50,074	2,970	49,901	-3,021	52,922	49,727	5,800	49,727	-3,000	24,098	64,935	
174+16,266		-9,581	53,848	-5,800	50,066	3,000	49,892	-2,941	52,833	49,718	5,800	49,718	-3,000	23,309	64,138	
175+0,000		-9,006	53,267	-5,800	50,061	3,000	49,887	-2,856	52,743	49,713	5,800	49,713	-3,000	22,835	63,658	
175+10,000		-7,572	51,795	-5,800	50,023	2,600	49,873	-2,604	52,477	49,698	5,800	49,698	-3,000	21,734	62,543	
176+0,000		-6,614	50,794	-5,800	49,980	2,100	49,858	-2,232	52,090	49,684	5,800	49,684	-3,000	13,827	57,711	
176+1,983	CS	-6,506	50,677	-5,800	49,971	2,000	49,855	-2,147	52,002	49,681	5,800	49,681	-3,000	8,992	52,874	
176+10,000		-6,066	50,301	-5,700	49,935	1,600	49,844	-1,801	51,645	49,670	5,777	49,670	-3,000	7,552	51,445	
177+0,000		-5,860	50,079	-5,672	49,892	1,100	49,829	-1,360	51,189	49,659	5,681	49,659	-3,000	7,148	51,126	
177+10,000		-6,217	49,487	-5,675	49,849	0,600	49,815	-0,914	50,729	49,647	5,588	49,647	-3,000	6,634	50,693	
178+0,000		-6,380	49,302	-5,624	49,806	0,100	49,800	-0,673	50,473	49,633	5,583	49,633	-3,000	6,459	50,509	
178+1,983	ST	-6,572	49,149	-5,600	49,797	0,000	49,798	-0,620	50,418	49,629	5,600	49,629	-3,000	6,452	50,482	
179+0,000		-6,490	49,178	-5,600	49,771	0,000	49,771	-0,250	50,021	49,603	5,600	49,603	-3,000	6,141	50,145	
179+2,114	TS	-6,383	49,247	-5,600	49,768	0,000	49,768	-0,229	49,997	49,600	5,600	49,600	-3,000	6,114	50,115	
179+10,000		-6,340	49,297	-5,600	49,790	0,590	49,757	-0,156	49,913	49,589	5,600	49,589	-3,000	6,015	50,004	
180+0,000		-6,289	49,370	-5,600	49,829	1,340	49,754	-0,025	49,779	49,586	5,600	49,586	-3,000	6,055	50,041	
180+10,000		-6,459	49,318	-5,600	49,890	2,090	49,773	0,120	49,653	49,605	5,600	49,605	-3,000	6,086	50,091	
181+0,000		-7,180	48,921	-5,600	49,974	2,840	49,815	0,282	49,533	49,647	5,600	49,647	-3,000	5,880	49,927	
181+2,114	SC	-7,636	48,847	-5,900	50,004	3,000	49,827	0,300	49,527	49,650	5,900	49,650	-3,000	6,114	49,864	
181+10,000		-7,427	49,039	-5,900	50,057	3,000	49,880	0,286	49,594	49,703	5,900	49,703	-3,000	5,941	49,743	
182+0,000		-7,471	49,097	-5,900	50,144	3,000	49,967	0,205	49,762	49,790	5,900	49,790	-3,000	5,948	49,758	
182+10,000		-7,830	48,967	-5,900	50,254	3,000	50,077	0,187	49,890	49,900	5,900	49,900	-3,000	6,305	49,630	
183+0,000		-8,431	48,699	-5,900	50,386	3,000	50,209	0,213	49,996	50,032	5,900	50,032	-3,000	6,168	50,301	
183+10,000		-7,105	49,738	-5,900	50,541	3,000	50,364	0,238	50,126	50,187	5,900	50,187	-3,000	6,542	50,829	

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET	BORDO		OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	Cota (m)		Distância (m)	Cota (m)
183+18,713		-6,750	50,128	-5,900	50,695	3,000	50,518	0,229	50,289	5,900	50,341	-3,000	6,611	51,052		
184+0,000		-6,862	50,078	-5,900	50,719	3,000	50,542	0,228	50,314	5,900	50,365	-3,000	6,681	51,145		
184+10,000		-8,336	49,295	-5,900	50,919	3,000	50,742	0,284	50,458	5,900	50,565	-3,000	7,685	52,350		
185+0,000		-9,684	48,608	-5,900	51,130	3,000	50,953	0,471	50,482	5,900	50,776	-3,000	6,019	50,697		
185+10,000		-10,185	48,485	-5,900	51,342	3,000	51,165	0,663	50,502	5,900	50,988	-3,000	6,259	50,749		
186+0,000		-10,615	48,410	-5,900	51,553	3,000	51,376	0,794	50,582	5,900	51,199	-3,000	6,515	50,789		
186+10,000		-10,806	48,494	-5,900	51,765	3,000	51,588	0,961	50,627	5,900	51,411	-3,000	6,798	50,812		
186+15,312	CS	-10,831	48,590	-5,900	51,877	3,000	51,700	1,089	50,611	5,900	51,523	-3,000	6,995	50,793		
187+0,000		-10,775	48,645	-5,813	51,953	2,650	51,799	1,193	50,606	5,919	51,642	-2,650	7,123	50,840		
187+10,000		-11,014	48,599	-5,732	52,120	1,900	52,011	1,448	50,563	5,855	51,874	-2,320	7,335	50,888		
188+0,000		-10,980	48,778	-5,716	52,288	1,150	52,222	1,790	50,432	5,722	52,108	-2,000	7,431	50,968		
188+10,000		-10,930	48,949	-5,669	52,456	0,400	52,434	2,201	50,233	5,614	52,338	-1,700	7,628	50,996		
188+15,312	ST	-11,142	48,849	-5,600	52,544	0,000	52,544	2,433	50,111	5,600	52,458	-1,540	7,790	50,998		
189+0,000		-11,525	48,669	-5,600	52,619	-0,350	52,638	2,583	50,055	5,600	52,560	-1,400	7,933	51,005		
190+0,000		-11,764	48,794	-5,600	52,903	-1,850	53,007	2,992	50,015	5,600	52,962	-0,800	8,895	50,766		
191+0,000		-12,071	48,840	-5,600	53,153	-3,000	53,321	3,354	49,967	5,600	53,310	-0,200	10,337	50,152		
191+6,734	TS	-12,247	48,816	-5,600	53,247	-3,000	53,415	3,427	49,988	5,600	53,415	0,000	11,537	49,457		
191+7,000		-12,247	48,819	-5,600	53,251	-3,000	53,419	3,429	49,990	5,600	53,419	0,000	11,537	49,461		
191+10,000		-12,226	48,873	-5,600	53,290	-3,000	53,458	3,453	50,005	5,600	53,464	0,100	12,080	49,144		
192+0,000		-12,144	49,051	-5,600	53,414	-3,000	53,582	3,539	50,043	5,600	53,604	0,400	12,346	49,107		
192+10,000		-10,973	49,942	-5,600	53,523	-3,000	53,692	3,561	50,131	5,600	53,731	0,700	12,373	49,215		
193+0,000		-9,778	50,841	-5,600	53,626	-3,000	53,795	3,556	50,239	5,600	53,850	1,000	12,411	49,310		
193+10,000		-8,337	51,905	-5,600	53,730	-3,000	53,898	3,501	50,397	5,600	53,970	1,300	12,378	49,452		
194+0,000		-8,548	51,868	-5,600	53,833	-3,000	54,001	3,450	50,551	5,600	54,090	1,600	12,311	49,616		
194+10,000		-8,505	51,999	-5,600	53,936	-3,000	54,104	3,395	50,709	5,600	54,210	1,900	12,617	49,532		
195+0,000		-8,378	52,187	-5,600	54,039	-3,000	54,207	3,308	50,899	5,600	54,330	2,200	12,673	49,615		
195+10,000		-8,139	52,449	-5,600	54,142	-3,000	54,310	3,153	51,157	5,600	54,450	2,500	12,745	49,687		
196+0,000		-7,276	53,127	-5,600	54,245	-3,000	54,413	3,013	51,400	5,600	54,570	2,800	12,315	50,093		
196+6,734	SC	-6,519	53,702	-5,600	54,314	-3,000	54,482	2,915	51,567	5,600	54,650	3,000	11,508	50,712		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	Cota (m)	(%)		
196+10,000		-6,213	53,939	-5,600	54,348	-3,000	54,516	51,649	2,867	5,600	54,684	3,000	11,430	50,797		
197+0,000		-5,933	54,784	-5,600	54,451	-3,000	54,619	51,885	2,734	5,600	54,787	3,000	10,694	51,391		
197+2,247		-6,077	54,951	-5,600	54,474	-3,000	54,642	51,904	2,738	5,600	54,810	3,000	10,563	51,502		
197+10,000		-6,618	55,572	-5,600	54,554	-3,000	54,722	52,193	2,529	5,600	54,890	3,000	10,398	51,691		
197+17,761	CS	-7,341	56,375	-5,600	54,634	-3,000	54,802	52,413	2,389	5,600	54,970	3,000	10,482	51,715		
198+0,000		-7,099	56,156	-5,600	54,657	-3,000	54,825	52,402	2,423	5,600	54,989	2,930	10,494	51,726		
198+10,000		-6,386	55,546	-5,600	54,760	-3,000	54,928	52,355	2,573	5,600	55,075	2,630	10,723	51,660		
199+0,000		-6,023	54,581	-5,600	54,863	-3,000	55,031	52,316	2,715	5,600	55,161	2,330	10,942	51,600		
199+10,000		-7,258	53,861	-5,600	54,966	-3,000	55,134	52,245	2,889	5,600	55,248	2,030	11,244	51,485		
200+0,000		-8,664	53,026	-5,600	55,069	-3,000	55,237	52,193	3,044	5,600	55,334	1,730	11,535	51,378		
200+10,000		-10,301	52,038	-5,600	55,172	-3,000	55,340	51,725	3,615	5,600	55,420	1,430	11,874	51,238		
201+0,000		-11,140	51,582	-5,600	55,275	-3,000	55,443	52,271	3,172	5,600	55,506	1,130	12,215	51,096		
201+10,000		-10,749	51,945	-5,600	55,378	-3,000	55,546	52,324	3,222	5,600	55,593	0,830	12,391	51,065		
202+0,000		-10,425	52,264	-5,600	55,481	-3,000	55,649	52,386	3,263	5,600	55,679	0,530	12,566	51,035		
202+10,000		-10,174	52,535	-5,600	55,584	-3,000	55,752	52,462	3,290	5,600	55,765	0,230	12,143	51,404		
202+17,761	ST	-10,481	52,410	-5,600	55,664	-3,000	55,832	52,530	3,302	5,600	55,832	0,000	11,773	51,717		
203+0,000		-10,637	52,329	-5,600	55,687	-3,000	55,855	52,574	3,281	5,600	55,851	-0,070	11,742	51,757		
204+0,000		-10,550	52,541	-5,600	55,841	-3,000	56,009	52,910	3,099	5,600	55,971	-0,670	11,377	52,120		
205+0,000		-10,241	52,915	-5,600	56,009	-3,000	56,177	53,198	2,979	5,600	56,106	-1,270	11,094	52,443		
206+0,000		-10,313	53,217	-5,600	56,359	-1,630	56,450	53,565	2,885	5,600	56,345	-1,870	10,201	53,278		
207+0,000		-10,299	53,704	-5,600	56,836	-0,130	56,844	54,164	2,680	5,600	56,705	-2,470	8,330	54,885		
207+1,757	TS	-10,295	53,754	-5,600	56,884	0,000	56,884	54,228	2,656	5,600	56,716	-3,000	8,036	55,092		
207+10,000		-10,333	54,011	-5,668	57,121	0,620	57,086	54,593	2,493	5,611	56,917	-3,000	6,798	56,126		
208+0,000		-10,387	54,305	-5,690	57,435	1,370	57,358	55,552	1,806	5,687	57,187	-3,000	6,070	57,570		
208+10,000		-10,395	54,654	-5,706	57,780	2,120	57,659	56,883	0,776	5,772	57,486	-3,000	8,442	60,156		
209+0,000		-11,113	54,600	-5,777	58,157	2,870	57,991	57,903	0,088	5,804	57,817	-3,000	10,126	62,139		
209+1,757	SC	-10,986	54,770	-5,800	58,227	3,000	58,053	58,067	-0,014	5,800	57,879	-3,000	10,374	62,453		
209+10,000		-10,459	55,422	-5,800	58,527	3,000	58,353	58,862	-0,509	5,800	58,179	-3,000	11,611	63,990		
210+0,000		-10,430	55,833	-5,800	58,919	3,000	58,745	59,533	-0,788	5,800	58,571	-3,000	12,672	65,443		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
210+10,000		-10,535	56,185	-5,800	59,341	3,000	59,168	-1,108	60,276	58,993	-3,000	13,565	66,759			
211+0,000		-10,746	56,496	-5,800	59,794	3,000	59,620	-1,514	61,134	59,446	-3,000	14,706	68,352			
211+10,000		-10,876	56,892	-5,800	60,276	3,000	60,102	-1,868	61,970	59,928	-3,000	21,319	72,357			
212+0,000		-10,753	57,486	-5,800	60,788	3,000	60,614	-2,379	62,993	60,440	-3,000	21,926	73,476			
212+10,000		-10,668	58,085	-5,800	61,330	3,000	61,156	-2,909	64,065	60,982	-3,000	22,583	74,675			
212+14,974		-10,532	58,457	-5,800	61,611	3,000	61,437	-3,041	64,478	61,263	-3,000	22,715	75,088			
213+0,000		-10,406	58,832	-5,800	61,903	3,000	61,729	-3,210	64,939	61,555	-3,000	22,642	75,307			
213+10,000		-10,194	59,575	-5,800	62,505	3,000	62,331	-3,422	65,753	62,157	-3,000	22,198	75,465			
214+0,000		-10,025	60,306	-5,800	63,122	3,000	62,948	-3,587	66,535	62,774	-3,000	21,904	75,788			
214+10,000		-9,804	61,070	-5,800	63,740	3,000	63,566	-3,215	66,781	63,392	-3,000	15,795	73,387			
215+0,000		-9,537	61,866	-5,800	64,357	3,000	64,183	-0,898	65,081	64,009	-3,000	14,436	72,645			
215+10,000		-9,288	62,649	-5,800	64,975	3,000	64,801	1,203	63,598	64,627	-3,000	13,125	71,952			
216+0,000		-9,487	63,134	-5,800	65,592	3,000	65,418	1,902	63,516	65,244	-3,000	12,024	71,468			
216+8,190	CS	-15,162	59,856	-5,800	66,098	3,000	65,924	1,867	64,057	65,750	-3,000	11,294	71,244			
216+10,000		-15,529	59,698	-5,775	66,201	2,860	66,035	1,864	64,171	65,868	-2,860	11,187	71,225			
217+0,000		-17,229	59,106	-5,727	66,774	2,110	66,653	1,855	64,798	66,528	-2,110	10,603	71,212			
217+10,000		-17,477	59,551	-5,781	67,349	1,360	67,270	1,851	65,419	67,190	-1,360	10,426	71,704			
218+0,000		-17,625	60,089	-5,873	67,923	0,610	67,888	1,823	66,065	67,852	-0,610	10,196	72,178			
218+8,190	ST	-17,706	60,544	-5,933	68,393	0,000	68,393	1,735	66,658	68,393	0,000	10,582	73,120			
219+0,000		-15,232	62,883	-5,940	69,077	-0,760	69,122	1,600	67,522	69,167	0,760	11,311	74,556			
219+1,232	PC	-14,326	63,554	-5,935	69,148	-0,840	69,198	1,570	67,628	69,248	0,840	11,486	74,799			
219+8,022		-10,770	66,344	-5,935	69,568	-0,840	69,618	1,405	68,213	69,667	0,840	12,386	76,119			
219+10,000		-9,842	67,085	-5,935	69,690	-0,840	69,740	1,356	68,384	69,789	0,840	12,575	76,429			
219+14,813	PT	-8,438	68,318	-5,935	69,987	-0,840	70,037	1,237	68,800	70,087	0,840	12,888	77,040			
220+0,000		-7,561	69,224	-5,908	70,326	-0,530	70,357	1,069	69,288	70,388	0,530	13,105	77,585			
221+0,000		-6,297	71,321	-5,833	71,631	0,670	71,592	0,304	71,288	71,553	-0,670	14,119	79,839			
222+0,000		-6,183	73,292	-5,801	72,910	1,870	72,801	-0,355	73,156	72,693	-1,870	15,379	82,271			
222+2,271	PC	-6,218	73,470	-5,800	73,052	2,010	72,935	-0,408	73,343	72,819	-2,010	15,587	82,605			
222+10,000		-6,356	74,084	-5,800	73,529	2,440	73,387	-0,898	74,285	73,245	-2,440	21,351	85,707			



Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
223+0,000		-6,489	74,824	-5,800	74,134	3,000	73,960	-1,802	75,762	-1,802	73,786	-3,000	21,821	86,717		
223+10,000		-6,636	75,531	-5,800	74,695	3,000	74,521	-2,184	76,705	-2,184	74,347	-3,000	22,098	87,555		
224+0,000		-6,705	76,148	-5,800	75,243	3,000	75,069	-1,124	76,193	-1,124	74,895	-3,000	21,744	87,748		
224+3,500		-6,877	76,508	-5,800	75,431	3,000	75,258	-1,185	76,443	-1,185	75,083	-3,000	21,613	87,806		
224+10,000		-7,119	77,097	-5,800	75,778	3,000	75,604	-1,299	76,903	-1,299	75,430	-3,000	21,404	87,944		
225+0,000		-6,788	77,289	-5,800	76,301	3,000	76,127	-1,403	77,530	-1,403	75,953	-3,000	15,557	85,709		
225+10,000		-6,153	77,122	-5,800	76,769	2,290	76,637	-1,495	78,132	-1,495	76,504	-2,290	14,429	85,133		
226+0,000		-12,317	72,880	-5,800	77,225	1,570	77,134	-1,415	78,549	-1,415	77,043	-1,570	13,033	84,276		
226+4,730	PT	-13,757	72,119	-5,800	77,424	0,990	77,366	-1,375	78,741	-1,375	77,309	-0,990	12,421	83,930		
226+12,892	TS	-17,098	70,177	-5,712	77,767	0,000	77,767	-1,313	79,080	-1,313	77,767	0,000	11,688	83,744		
227+0,000		-18,374	69,580	-5,600	78,096	-0,360	78,116	-1,247	79,363	-1,247	78,136	0,360	11,174	83,710		
227+10,000		-31,337	63,491	-5,600	78,559	-0,860	78,607	-1,132	79,739	-1,132	78,655	0,860	10,469	83,524		
228+0,000		-17,988	70,785	-5,600	79,043	-1,360	79,119	-0,950	80,069	-0,950	79,195	1,360	11,033	84,628		
228+10,000		-14,987	73,311	-5,600	79,568	-1,860	79,673	-0,760	80,433	-0,760	79,777	1,860	11,748	85,925		
229+0,000		-7,056	79,165	-5,600	80,136	-2,360	80,268	-0,529	80,797	-0,529	80,400	2,360	12,684	87,484		
229+10,000		-5,942	81,086	-5,600	80,744	-2,860	80,904	-0,202	81,106	-0,202	81,064	2,860	13,760	89,224		
229+12,892	SC	-6,024	81,353	-5,600	80,928	-3,000	81,096	-0,100	81,196	-0,100	81,264	3,000	14,025	89,689		
230+0,000		-5,706	81,521	-5,600	81,415	-3,000	81,583	0,129	81,454	0,129	81,751	3,000	14,805	90,956		
230+10,000		-5,954	81,899	-5,600	82,135	-3,000	82,303	0,136	82,167	0,136	82,471	3,000	21,304	95,084		
231+0,000		-6,422	82,348	-5,600	82,896	-3,000	83,064	-0,797	83,861	-0,797	83,232	3,000	22,031	96,573		
231+10,000		-6,876	82,849	-5,600	83,699	-3,000	83,867	-1,131	84,998	-1,131	84,035	3,000	22,748	98,093		
232+0,000		-7,404	83,341	-5,600	84,544	-3,000	84,712	-1,270	85,982	-1,270	84,880	3,000	22,965	99,155		
232+7,083		-7,833	83,679	-5,600	85,167	-3,000	85,335	-1,754	87,089	-1,754	85,503	3,000	22,526	99,339		
232+10,000		-8,025	83,814	-5,600	85,430	-3,000	85,598	-1,986	87,584	-1,986	85,766	3,000	22,309	99,385		
233+0,000		-8,388	84,499	-5,600	86,358	-3,000	86,526	-1,724	88,250	-1,724	86,694	3,000	15,577	96,671		
233+10,000		-8,642	85,300	-5,600	87,328	-3,000	87,496	-0,703	88,199	-0,703	87,664	3,000	15,338	97,402		
234+0,000		-9,443	85,756	-5,600	88,318	-3,000	88,486	-0,288	88,754	-0,288	88,654	3,000	14,813	97,867		
234+10,000		-9,575	86,658	-5,600	89,308	-3,000	89,476	-2,178	91,654	-2,178	89,644	3,000	14,431	98,475		
235+0,000		-9,641	87,605	-5,600	90,299	-3,000	90,467	-2,581	93,048	-2,581	90,635	3,000	13,727	98,761		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET	BORDO		OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	Cota (m)		Distância (m)	Cota (m)
235+1,273	CS	-9,618	87,746	-5,600	90,425	-3,000	90,593	-2,625	93,218	90,761	3,000	13,733	98,894			
235+10,000		-9,529	88,670	-5,600	91,289	-3,000	91,457	-2,926	94,383	91,600	2,560	13,804	99,805			
236+0,000		-5,771	92,417	-5,600	92,246	-3,000	92,414	-3,321	95,735	92,529	2,060	13,845	100,775			
236+10,000		-5,831	93,368	-5,600	93,137	-3,000	93,305	-3,214	96,519	93,392	1,560	13,263	101,055			
237+0,000		-9,006	91,691	-5,600	93,961	-3,000	94,129	-2,917	97,046	94,189	1,060	12,448	101,037			
237+10,000		-9,072	92,405	-5,600	94,719	-3,000	94,887	-2,013	96,900	94,919	0,560	11,228	100,547			
238+0,000		-9,340	92,918	-5,600	95,411	-3,000	95,579	-0,897	96,476	95,582	0,060	9,904	99,886			
238+1,273	ST	-9,401	92,961	-5,600	95,494	-3,000	95,662	-0,749	96,411	95,662	0,000	9,730	99,793			
239+0,000		-29,506	82,911	-5,600	96,758	-0,100	96,764	2,010	94,754	96,711	-0,940	7,647	98,758			
239+0,557	TS	-29,720	82,803	-5,600	96,793	0,000	96,793	2,123	94,670	96,739	-0,960	7,616	98,756			
239+10,000		-29,109	83,920	-5,823	97,354	1,680	97,256	2,902	94,354	97,138	-2,170	7,021	98,704			
240+0,000		-26,672	86,047	-5,783	97,883	3,460	97,683	2,827	94,856	97,485	-3,460	7,264	99,028			
240+10,000		-17,577	90,482	-5,782	98,345	5,230	98,043	2,563	95,480	97,724	-5,240	8,160	99,802			
241+0,000		-13,993	93,547	-6,161	98,768	7,010	98,337	2,279	96,058	97,901	-7,010	9,068	100,763			
241+0,557	SC	-13,792	93,730	-6,200	98,792	7,110	98,351	2,264	96,087	97,910	-7,110	9,110	100,820			
241+10,000		-8,487	97,480	-6,200	99,005	7,110	98,564	2,018	96,546	98,123	-7,110	10,071	101,994			
242+0,000		-9,396	97,035	-6,200	99,166	7,110	98,725	1,707	97,018	98,284	-7,110	11,314	103,398			
242+1,060		-9,320	97,099	-6,200	99,179	7,110	98,738	1,674	97,064	98,297	-7,110	11,444	103,541			
242+10,000		-8,703	97,592	-6,200	99,260	7,110	98,820	1,392	97,428	98,379	-7,110	12,393	104,572			
243+0,000		-8,070	98,042	-6,200	99,289	7,110	98,848	-0,808	99,656	98,407	-7,110	12,919	105,126			
243+1,563	CS	-8,015	98,077	-6,200	99,287	7,110	98,846	-1,023	99,869	98,405	-7,110	13,025	105,231			
243+10,000		-7,241	98,263	-5,923	99,142	5,610	98,810	-2,827	101,637	98,460	-5,610	13,413	105,648			
244+0,000		-6,781	98,359	-5,922	98,932	3,830	98,705	-4,237	102,942	98,478	-3,830	13,659	106,204			
244+10,000		-6,589	98,233	-5,953	98,657	2,060	98,535	-5,076	103,611	98,343	-3,420	14,212	106,959			
245+0,000		-6,428	97,821	-5,689	98,313	0,280	98,298	-4,524	102,822	98,131	-3,000	14,679	107,253			
245+1,563	ST	-6,396	97,724	-5,600	98,254	0,000	98,255	-4,276	102,531	98,086	-3,000	14,841	107,327			
246+0,000		-6,981	96,536	-5,600	97,456	-3,000	97,624	-2,918	100,542	97,456	-3,000	15,041	106,897			
246+15,633	TS	-7,260	95,639	-5,600	96,745	-3,000	96,913	-3,568	100,481	96,913	0,000	14,296	105,609			
247+0,000		-7,358	95,373	-5,644	96,516	-3,000	96,686	-3,628	100,314	96,754	1,170	14,388	105,319			

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
247+10,000		-7,644	94,766	-6,049	95,830	-4,750	99,803	-3,686	96,343	5,907	96,343	3,830	13,856	104,292		
248+0,000		-7,693	94,159	-6,326	95,071	-6,500	98,274	-2,792	95,866	5,918	95,866	6,500	13,204	103,152		
248+5,633	SC	-7,286	93,867	-6,187	94,600	-8,000	96,047	-0,952	95,587	6,146	95,587	8,000	12,874	102,315		
248+10,000		-7,273	93,602	-6,256	94,280	-8,000	94,218	0,562	95,279	6,230	95,279	8,000	12,978	102,027		
249+0,000		-7,229	92,932	-6,373	93,503	-8,000	96,039	-2,026	94,522	6,368	94,522	8,000	13,690	101,844		
249+3,646		-7,126	92,720	-6,400	93,204	-8,000	97,282	-3,566	94,228	6,400	94,228	8,000	13,844	101,672		
249+10,000		-7,040	92,254	-6,425	92,664	-8,000	97,116	-3,938	93,693	6,430	93,693	8,000	14,007	101,270		
250+0,000		-6,707	91,567	-6,409	91,765	-8,000	96,721	-4,443	92,791	6,411	92,791	8,000	14,080	100,460		
250+1,659	CS	-6,633	91,454	-6,400	91,610	-8,000	96,569	-4,447	92,634	6,400	92,634	8,000	14,294	100,528		
250+10,000		-6,651	90,880	-6,575	90,931	-5,780	95,229	-3,918	91,665	6,132	91,665	5,780	14,989	100,523		
251+0,000		-6,392	90,021	-6,248	90,117	-3,110	91,402	-1,091	90,503	6,194	90,503	3,110	15,765	100,074		
251+10,000		-6,185	89,370	-5,947	89,131	-3,020	89,447	-0,136	89,338	6,038	89,338	0,440	20,784	100,993		
251+11,659	ST	-6,232	89,251	-5,947	88,966	-3,000	89,145	-0,210	89,145	5,947	89,145	0,000	20,838	100,946		
252+0,000		-6,355	88,608	-5,947	88,200	-1,860	88,311	-0,540	88,179	5,947	88,179	-2,220	21,738	100,880		
252+6,966	TS	-6,630	88,298	-5,947	87,614	0,000	87,614	-0,816	87,436	5,947	87,436	-3,000	22,717	101,116		
252+10,000		-6,871	88,219	-6,011	87,359	0,810	87,311	-0,897	87,129	5,825	87,129	-3,110	23,154	101,369		
253+0,000		-7,131	87,702	-5,946	86,518	3,480	86,311	-1,176	86,104	5,947	86,104	-3,480	25,363	102,430		
253+10,000		-7,228	86,939	-5,966	85,677	6,140	85,311	-1,413	84,922	6,332	84,922	-6,140	27,748	103,247		
253+16,966	SC	-7,675	86,401	-6,400	85,126	8,000	84,614	-1,556	84,102	6,400	84,102	-8,000	29,095	103,708		
253+19,094		-7,678	86,192	-6,400	84,913	8,000	84,401	-1,612	83,889	6,400	83,889	-8,000	33,165	104,474		
254+0,000		-7,680	86,103	-6,400	84,823	8,000	84,311	-1,635	83,799	6,400	83,799	-8,000	33,305	104,523		
254+1,222	CS	-7,683	85,983	-6,400	84,700	8,000	84,188	-1,666	83,676	6,400	83,676	-8,000	33,495	104,591		
254+10,000		-7,452	85,071	-6,033	83,652	5,660	83,311	-1,752	82,945	6,458	82,945	-5,660	34,082	104,389		
255+0,000		-7,666	84,007	-6,153	82,494	2,990	82,311	-1,769	82,126	6,160	82,126	-2,990	35,028	104,815		
255+10,000		-7,595	82,737	-6,189	81,331	0,330	81,311	-1,444	81,291	6,111	81,291	-0,330	37,038	106,037		
255+11,222	ST	-7,540	82,573	-6,156	81,188	0,000	81,189	-1,393	81,188	6,156	81,188	0,000	37,148	106,001		
255+14,227	PC	-7,403	82,174	-6,086	80,856	-0,560	80,890	-1,265	80,924	6,049	80,924	0,560	37,069	105,764		
256+0,000		-7,099	81,429	-5,899	80,229	-1,630	80,325	-1,015	80,422	5,896	80,422	1,630	37,053	105,399		
256+10,000		-6,643	80,045	-5,833	79,235	-2,310	79,371	-0,760	79,506	5,835	79,506	2,310	36,906	104,396		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		(%)	Distância (m)	Cota (m)		
257+0,000		-6,237	78,711	-5,798	78,272	-3,000	78,446	78,983	-0,537	5,798	78,620	3,000	35,752	102,393		
257+5,370		-6,033	78,032	-5,789	77,788	-3,000	77,961	78,401	-0,440	5,789	78,135	3,000	35,373	101,540		
257+10,000		-5,933	77,524	-5,786	77,377	-3,000	77,551	77,937	-0,386	5,786	77,724	3,000	35,210	100,968		
258+0,000		-5,881	76,596	-5,798	76,512	-3,000	76,686	76,985	-0,299	5,793	76,860	3,000	27,429	95,406		
258+10,000		-6,111	75,876	-5,909	75,674	-3,000	75,851	76,219	-0,368	5,528	75,984	2,400	26,747	94,113		
258+16,512	PT	-6,176	75,482	-5,943	75,149	-3,000	75,324	75,765	-0,441	5,517	75,435	2,010	28,001	94,829		
259+0,000		-6,180	75,271	-5,782	74,873	-3,000	75,047	75,519	-0,472	5,542	75,144	1,750	28,082	94,594		
260+0,000		-6,021	73,769	-5,597	73,345	-3,000	73,513	73,906	-0,393	5,600	73,526	0,250	28,540	93,377		
261+0,000		-5,923	72,149	-5,600	71,825	-3,000	71,993	72,199	-0,206	5,600	71,923	-1,250	26,853	90,086		
262+0,000		-6,194	70,900	-5,600	70,306	-3,000	70,474	71,561	-1,087	5,600	70,438	-0,640	26,648	88,397		
263+0,000		-6,129	69,319	-5,598	68,787	-3,000	68,955	70,654	-1,699	5,600	68,954	-0,020	34,744	91,918		
264+0,000		-5,731	67,297	-5,699	67,265	-3,000	67,436	67,077	0,359	5,687	67,520	1,480	36,125	91,778		
264+7,086	PC	-6,093	66,529	-5,800	66,724	-3,000	66,898	66,306	0,592	5,800	67,014	2,010	36,418	91,453		
264+10,000		-6,247	66,205	-5,800	66,503	-3,000	66,677	65,991	0,686	5,800	66,806	2,230	36,392	91,218		
265+0,000		-6,813	65,067	-5,800	65,743	-3,000	65,917	64,930	0,987	5,800	66,090	2,980	28,558	85,758		
265+10,000		-7,331	63,963	-5,800	64,983	-3,000	65,158	63,887	1,271	5,800	65,331	2,990	26,120	82,561		
266+0,000		-28,054	51,478	-5,800	64,224	-3,000	64,398	62,810	1,588	5,800	64,572	3,000	24,279	79,961		
266+10,000		-27,782	50,900	-5,800	63,464	-3,000	63,638	61,793	1,845	5,800	63,812	3,000	13,983	71,995		
266+16,503		-26,353	51,358	-5,800	62,970	-3,000	63,144	61,192	1,952	5,800	63,318	3,000	5,844	63,289		
267+0,000		-25,621	51,581	-5,800	62,705	-3,000	62,879	60,874	2,005	5,800	63,053	3,000	6,010	62,913		
267+10,000		-19,761	52,638	-5,800	61,945	-3,000	62,119	59,932	2,187	5,800	62,293	3,000	6,440	61,867		
268+0,000		-17,774	53,203	-5,800	61,186	-3,000	61,360	58,934	2,426	5,800	61,534	3,000	6,297	61,203		
268+10,000		-14,988	54,301	-5,800	60,426	-3,000	60,600	57,943	2,657	5,800	60,758	2,720	10,386	65,344		
269+0,000		-10,307	56,662	-5,800	59,667	-3,000	59,841	56,959	2,882	5,800	59,983	2,450	9,795	63,977		
269+5,921	PT	-8,424	57,470	-5,800	59,220	-3,000	59,394	56,382	3,012	5,800	59,510	2,010	5,822	59,495		
269+9,382																
269+11,537	PC															
270+0,000																
270+10,000																

RÓTULA DE INTERSEÇÃO COM O TRECHO 02



Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
281+14,589	CS	-13,911	60,072	-5,800	51,961	-3,000	52,135	48,707	3,428	5,600	52,303	3,000	12,446	47,739		
282+0,000		-11,618	57,750	-5,765	51,896	-3,000	52,069	48,597	3,472	5,600	52,207	2,460	12,559	47,567		
282+10,000		-6,029	51,495	-5,600	51,780	-3,000	51,948	48,375	3,573	5,600	52,030	1,460	13,707	46,626		
283+0,000		-8,434	49,771	-5,600	51,660	-3,000	51,828	48,168	3,660	5,600	51,853	0,460	13,718	46,441		
283+4,589	ST	-10,108	48,599	-5,600	51,604	-3,000	51,772	48,107	3,665	5,600	51,772	0,000	13,781	46,318		
284+0,000		-12,581	46,764	-5,600	51,418	-3,000	51,586	47,864	3,722	5,600	51,500	-1,540	12,209	47,094		
284+9,702		-12,581	46,618	-5,600	51,271	-3,000	51,440	47,083	4,357	5,600	51,353	-1,540	12,209	46,947		
285+0,000		-13,227	46,031	-5,600	51,116	-3,000	51,284	47,118	4,166	5,600	51,116	-3,000	10,284	47,993		
286+0,000		-13,132	45,793	-5,600	50,814	-3,000	50,982	46,683	4,299	5,600	50,840	-2,530	9,275	48,390		
286+16,604	TS	-12,847	45,715	-5,574	50,564	-3,000	50,731	47,704	3,027	5,668	50,731	0,000	8,414	48,901		
287+0,000		-12,894	45,677	-5,645	50,510	-3,000	50,680	47,816	2,864	5,646	50,709	0,520	8,323	48,924		
287+10,000		-13,059	45,565	-5,905	50,335	-3,290	50,529	47,630	2,899	5,581	50,643	2,040	7,888	49,105		
288+0,000		-12,803	45,667	-6,062	50,161	-3,570	50,378	47,642	2,736	5,702	50,581	3,570	8,324	48,833		
288+6,604	SC	-12,340	45,776	-6,000	50,003	-4,580	50,278	47,650	2,628	6,000	50,552	4,580	8,620	48,806		
288+10,000		-12,204	45,816	-6,000	49,952	-4,580	50,226	47,647	2,579	6,000	50,501	4,580	8,604	48,765		
289+0,000		-11,934	45,844	-6,000	49,800	-4,580	50,075	47,666	2,409	6,000	50,350	4,580	8,326	48,800		
289+10,000		-11,818	45,771	-6,000	49,649	-4,580	49,924	47,660	2,264	6,000	50,199	4,580	8,233	48,710		
289+17,499		-11,727	45,718	-6,000	49,536	-4,580	49,811	47,697	2,114	6,000	50,086	4,580	7,732	48,931		
290+0,000		-11,705	45,695	-6,000	49,498	-4,580	49,773	47,713	2,060	6,000	50,048	4,580	7,417	49,103		
290+10,000		-11,637	45,589	-6,000	49,347	-4,580	49,622	47,752	1,870	6,000	49,897	4,580	6,916	49,286		
291+0,000		-11,765	45,353	-6,000	49,196	-4,580	49,471	47,883	1,588	6,000	49,746	4,580	8,191	51,937		
291+8,394	CS	-11,775	45,220	-6,000	49,069	-4,580	49,344	47,943	1,401	6,000	49,619	4,580	7,880	51,499		
291+10,000		-11,784	45,191	-5,998	49,048	-4,530	49,320	47,931	1,389	5,950	49,589	4,530	7,504	51,143		
292+0,000		-11,274	45,313	-5,860	48,922	-4,210	49,169	47,837	1,332	5,838	49,415	4,210	6,005	49,304		
292+10,000		-11,053	45,210	-5,672	48,797	-3,890	49,018	47,839	1,179	5,895	49,247	3,890	6,530	48,824		
292+18,394	ST	-11,068	45,072	-5,647	48,686	-3,630	48,891	47,458	1,433	5,903	49,105	3,630	7,146	48,277		
293+0,000		-11,103	45,041	-5,668	48,664	-3,580	48,867	47,347	1,520	5,889	49,078	3,580	7,261	48,163		
293+5,077	PC	-11,265	44,948	-5,800	48,592	-3,420	48,790	47,038	1,752	5,800	48,988	3,420	7,310	47,982		
293+10,000		-11,257	44,886	-5,798	48,525	-3,280	48,716	46,826	1,890	5,795	48,906	3,280	7,265	47,926		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET	BORDO		OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	Cota (m)		Distância (m)	Cota (m)
294+0,000		-11,287	44,730	-5,796	48,391	-3,000	48,565	46,557	2,008	5,788	48,738	3,000	7,176	47,813		
294+10,000		-11,310	44,564	-5,796	48,240	-3,000	48,414	46,376	2,038	5,787	48,587	3,000	7,146	47,681		
295+0,000		-11,085	44,563	-5,798	48,088	-3,000	48,262	46,763	1,499	5,792	48,436	3,000	7,060	47,591		
295+7,335		-10,965	44,534	-5,800	47,978	-3,000	48,152	47,076	1,076	5,800	48,326	3,000	6,944	47,563		
295+10,000		-10,931	44,518	-5,801	47,937	-3,000	48,111	47,107	1,004	5,804	48,285	3,000	6,616	47,744		
296+0,000		-11,101	44,256	-5,807	47,786	-3,000	47,960	47,004	0,956	5,821	48,135	3,000	9,262	51,576		
296+10,000		-10,975	44,228	-5,814	47,668	-2,870	47,835	46,999	0,836	5,844	48,002	2,860	11,207	53,366		
297+0,000		-10,951	44,184	-5,823	47,603	-2,730	47,762	46,986	0,776	5,873	47,922	2,730	11,825	53,875		
297+9,593	PT	-11,649	43,746	-5,833	47,623	-2,010	47,740	46,903	0,837	5,906	47,858	2,010	11,062	53,014		
297+14,634	TS	-11,341	44,107	-5,880	47,747	0,000	47,747	46,840	0,907	5,886	47,747	0,000	10,529	52,391		
298+0,000		-11,033	44,393	-5,897	47,817	0,800	47,770	46,767	1,003	5,880	47,723	-0,800	9,932	51,776		
298+10,000		-10,735	44,729	-5,850	47,985	2,280	47,852	46,693	1,159	5,985	47,715	-2,280	8,724	50,455		
299+0,000		-10,887	44,875	-5,890	48,207	3,760	47,985	46,665	1,320	6,047	47,758	-3,760	7,049	48,760		
299+4,634	SC	-11,344	44,768	-6,000	48,331	4,440	48,065	46,673	1,392	6,000	47,798	-4,440	6,304	47,595		
299+10,000		-11,910	44,497	-6,000	48,437	4,440	48,171	46,697	1,474	6,000	47,904	-4,440	6,643	47,475		
300+0,000		-12,526	44,323	-6,000	48,674	4,440	48,408	46,820	1,588	6,000	48,141	-4,440	6,956	47,504		
300+3,233		-12,991	44,101	-6,000	48,762	4,440	48,495	46,935	1,560	6,000	48,229	-4,440	6,965	47,585		
300+10,000		-12,995	44,299	-6,000	48,963	4,440	48,696	47,016	1,680	6,000	48,430	-4,440	6,850	47,863		
301+0,000		-12,695	44,840	-6,000	49,303	4,440	49,037	47,111	1,926	6,000	48,770	-4,440	6,342	48,543		
301+1,833	CS	-12,800	44,838	-6,000	49,371	4,440	49,105	47,120	1,985	6,000	48,838	-4,440	6,311	48,631		
301+10,000		-12,644	44,914	-5,600	49,610	3,230	49,429	47,277	2,152	5,600	49,217	-3,790	6,004	48,947		
302+0,000		-13,055	45,001	-5,600	49,971	1,750	49,873	47,483	2,390	8,764	49,610	-3,000	15,257	56,103		
302+10,000		-14,779	44,238	-5,600	50,358	0,270	50,343	47,952	2,391	8,620	50,084	-3,000	15,429	56,893		
302+11,833	ST	-15,111	44,088	-5,600	50,429	0,000	50,429	48,054	2,375	8,600	50,171	-3,000	15,395	56,966		
303+0,000		-16,604	43,422	-5,600	50,757	-0,990	50,813	48,508	2,305	8,600	50,555	-3,000	15,520	57,475		
304+0,000		-18,938	42,881	-5,614	51,764	0,210	51,752	50,195	1,557	8,600	51,494	-3,000	16,028	58,922		
305+0,000		-16,063	45,860	-5,694	52,772	1,410	52,692	51,872	0,820	8,694	52,431	-3,000	15,553	59,290		
305+9,966	PC	-13,907	47,872	-5,800	53,277	2,010	53,160	52,635	0,525	8,760	52,898	-3,000	15,227	59,365		
305+10,000		-13,891	47,885	-5,800	53,279	2,010	53,162	52,638	0,524	8,760	52,899	-3,000	15,225	59,364		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
306+0,000		-8,615	51,879	-5,800	53,756	2,610	53,604	0,227	53,377	8,800	53,340	-3,000	14,840	59,380		
306+10,000		-8,114	52,612	-5,800	54,154	2,810	53,992	-0,029	54,021	8,800	53,728	-3,000	14,876	59,804		
307+0,000		-6,500	54,032	-5,800	54,498	3,000	54,324	-0,264	54,588	8,800	54,060	-3,000	15,292	60,552		
307+5,626		-5,970	54,831	-5,800	54,661	3,000	54,487	-0,394	54,881	8,800	54,223	-3,000	15,626	61,049		
307+10,000		-5,864	54,839	-5,800	54,776	3,000	54,602	-0,446	55,048	8,800	54,338	-3,000	15,852	61,389		
308+0,000		-6,433	54,576	-5,800	54,998	3,000	54,824	-0,620	55,444	8,800	54,560	-3,000	16,522	62,282		
308+10,000		-10,007	52,338	-5,800	55,143	2,610	54,992	-0,859	55,851	8,800	54,727	-3,000	17,439	63,367		
309+0,000		-6,591	54,705	-5,800	55,233	2,220	55,104	-1,134	56,238	8,769	54,841	-3,000	18,109	64,181		
309+1,287	PT	-5,830	55,269	-5,800	55,239	2,150	55,114	-1,175	56,289	8,760	54,852	-3,000	18,169	64,261		
310+0,000		-5,978	55,609	-5,600	55,231	1,190	55,164	-1,781	56,945	8,635	54,905	-3,000	18,319	64,589		
311+0,000		-6,060	55,473	-5,600	55,013	0,160	55,004	-2,209	57,213	8,600	54,933	-0,820	18,341	64,674		
311+3,180	TS	-6,042	55,401	-5,600	54,958	0,000	54,958	-2,257	57,215	8,600	54,958	0,000	18,295	64,654		
311+10,000		-6,060	55,192	-5,610	54,742	-1,770	54,842	-2,346	57,188	8,763	54,996	1,770	18,467	64,700		
312+0,000		-6,689	55,059	-5,993	54,363	-4,360	54,624	-2,272	56,896	9,006	55,017	4,360	24,222	67,143		
312+10,000		-7,148	54,757	-6,304	53,913	-6,950	54,352	-2,190	56,542	9,211	54,992	6,950	24,638	67,329		
312+13,180	SC	-7,096	54,560	-6,300	53,763	-7,780	54,254	-2,128	56,382	9,300	54,977	7,780	24,660	67,247		
313+0,000		-7,230	54,464	-6,300	53,534	-7,780	54,024	-1,955	55,979	9,300	54,748	7,780	24,976	67,334		
313+9,166		-7,338	54,224	-6,300	53,186	-7,780	53,676	-1,691	55,367	9,300	54,400	7,780	24,702	66,711		
313+10,000		-7,340	54,192	-6,300	53,152	-7,780	53,642	-1,669	55,311	9,300	54,366	7,780	24,639	66,615		
314+0,000		-7,320	53,735	-6,300	52,714	-7,780	53,205	-1,476	54,681	9,300	53,928	7,780	24,013	65,552		
314+5,152	CS	-7,124	53,292	-6,300	52,468	-7,780	52,958	-1,439	54,397	9,300	53,681	7,780	19,007	63,388		
314+10,000		-7,018	53,037	-6,283	52,302	-6,520	52,712	-1,465	54,177	9,175	53,311	6,520	18,342	62,478		
315+0,000		-6,714	52,716	-5,957	51,958	-3,930	52,193	-1,492	53,685	8,957	52,544	3,930	17,001	60,589		
315+10,000		-6,164	52,162	-5,600	51,598	-1,340	51,673	-1,440	53,113	8,732	51,789	1,340	15,593	58,650		
315+15,152	ST	-5,939	51,744	-5,600	51,405	0,000	51,405	-1,428	52,833	8,600	51,405	0,000	15,077	57,882		
315+19,008	TS	-5,955	51,560	-5,600	51,204	0,000	51,204	-1,388	52,592	8,600	51,118	-1,000	14,946	57,464		
316+0,000		-5,977	51,534	-5,600	51,157	0,070	51,153	-1,376	52,529	8,599	51,044	-1,260	14,911	57,357		
316+10,000		-6,204	51,283	-5,600	50,679	0,820	50,633	-1,244	51,877	8,658	50,449	-2,130	14,444	56,235		
317+0,000		-6,480	51,081	-5,600	50,201	1,560	50,113	-1,011	51,124	8,761	49,850	-3,000	14,295	55,385		



Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)	(%)		
317+10,000		-6,563	50,453	-5,856	49,746	2,300	49,611	-0,487	50,098	8,799	49,346	-3,020	13,882	54,429		
318+0,000		-6,156	49,609	-5,871	49,324	3,040	49,145	0,081	49,064	5,600	48,975	-3,040	8,900	52,275		
318+10,000		-7,339	47,971	-5,889	48,937	3,780	48,715	0,876	47,839	5,985	48,489	-3,780	6,897	47,881		
318+19,008	SC	-9,927	46,007	-6,000	48,625	4,440	48,358	1,343	47,015	6,000	48,092	-4,440	7,972	46,777		
319+0,000		-10,325	45,704	-6,000	48,587	4,440	48,321	1,348	46,973	6,000	48,054	-4,440	8,057	46,683		
319+10,000		-12,271	44,048	-6,000	48,229	4,440	47,962	2,052	45,910	6,000	47,696	-4,440	8,661	45,922		
320+0,000		-13,347	43,008	-6,000	47,906	4,440	47,640	2,634	45,006	6,000	47,373	-4,440	8,740	45,547		
320+3,689		-13,350	42,897	-6,000	47,796	4,440	47,530	2,701	44,829	6,000	47,263	-4,440	8,626	45,513		
320+10,000		-13,288	42,760	-6,000	47,619	4,440	47,353	2,825	44,528	6,000	47,087	-4,440	8,265	45,577		
321+0,000		-13,264	42,526	-6,000	47,368	4,440	47,102	3,016	44,086	6,000	46,836	-4,440	7,398	45,904		
321+8,369	CS	-13,894	41,924	-6,000	47,186	4,440	46,920	3,016	43,904	6,000	46,653	-4,440	6,580	46,267		
321+10,000		-14,062	41,757	-5,980	47,145	4,320	46,887	3,019	43,868	5,998	46,628	-4,320	6,387	46,369		
322+0,000		-15,296	40,669	-5,920	46,920	3,580	46,708	3,023	43,685	5,920	46,496	-3,580	6,047	46,411		
322+10,000		-14,943	40,698	-5,892	46,732	2,840	46,565	3,030	43,535	5,813	46,373	-3,290	5,850	46,410		
323+0,000		-14,200	40,841	-5,600	46,575	2,100	46,457	3,072	43,385	5,786	46,283	-3,000	6,414	45,864		
323+10,000		-13,774	40,994	-5,600	46,444	1,360	46,368	3,162	43,206	5,600	46,199	-3,000	7,259	45,094		
324+0,000		-13,929	40,760	-5,600	46,313	0,620	46,278	3,244	43,034	5,600	46,110	-3,000	8,177	44,392		
324+8,369	ST	-14,002	40,601	-5,600	46,203	0,000	46,203	3,281	42,922	5,600	46,035	-3,000	8,935	43,812		
325+0,000		-13,694	40,655	-5,600	46,051	-0,860	46,099	3,227	42,872	5,600	45,931	-3,000	9,196	43,533		
326+0,000		-12,687	41,064	-5,600	45,789	-2,340	45,920	3,256	42,664	5,600	45,816	-1,860	8,498	43,884		
326+6,958	TS	-12,170	41,309	-5,600	45,689	-3,000	45,858	3,135	42,723	5,600	45,857	0,000	7,909	44,318		
326+10,000		-11,936	41,424	-5,588	45,656	-3,110	45,830	3,085	42,745	5,785	45,877	0,810	7,753	44,565		
327+0,000		-11,578	41,780	-5,948	45,534	-3,480	45,741	2,779	42,962	5,959	45,948	3,480	7,754	44,751		
327+10,000		-11,194	42,056	-6,391	45,258	-6,150	45,651	2,463	43,188	5,957	46,017	6,150	8,278	44,470		
327+16,958	SC	-10,784	42,154	-6,400	45,077	-8,000	45,589	2,254	43,335	6,210	46,086	8,000	8,725	44,409		
328+0,000		-10,756	42,145	-6,400	45,050	-8,000	45,562	2,173	43,389	6,286	46,064	8,000	8,690	44,462		
328+7,389		-10,905	41,980	-6,400	44,983	-8,000	45,495	2,047	43,448	6,400	46,007	8,000	8,257	44,769		
328+10,000		-11,029	41,874	-6,400	44,960	-8,000	45,472	2,017	43,455	6,418	45,985	8,000	8,109	44,858		
328+17,821	CS	-11,642	41,396	-6,400	44,890	-8,000	45,402	1,963	43,439	6,400	45,914	8,000	7,851	44,947		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
329+0,000		-11,808	41,284	-6,369	44,910	-7,420	45,383	43,427	1,956	6,206	45,843	7,420	7,683	44,858		
329+10,000		-12,419	40,658	-5,930	44,984	-5,210	45,293	43,516	1,777	5,842	45,571	4,760	7,745	44,302		
330+0,000		-12,680	40,247	-5,492	45,039	-3,000	45,203	42,530	2,673	5,817	45,325	2,090	7,933	43,914		
330+7,821	ST	-13,009	40,026	-5,600	44,965	-3,000	45,133	41,638	3,495	5,600	45,133	0,000	7,544	43,838		
331+0,000		-12,963	39,947	-5,600	44,856	-3,000	45,024	41,543	3,481	5,600	44,856	-3,000	7,000	43,923		
332+0,000		-13,131	39,757	-5,600	44,777	-1,210	44,845	43,681	1,164	5,600	44,677	-3,000	6,399	44,144		
332+4,525	TS	-13,463	39,563	-5,600	44,805	0,000	44,805	44,199	0,606	5,600	44,637	-3,000	6,205	44,233		
332+10,000		-13,998	39,434	-5,886	44,842	1,460	44,756	44,202	0,554	5,589	44,566	-3,400	5,831	44,404		
333+0,000		-12,505	40,575	-6,002	44,910	4,130	44,662	44,479	0,183	6,006	44,414	-4,130	12,223	50,630		
333+10,000		-11,918	41,127	-6,143	44,977	6,790	44,559	44,670	-0,111	6,402	44,124	-6,790	13,951	51,673		
333+14,525	SC	-13,939	39,996	-6,400	45,022	8,000	44,510	44,765	-0,255	6,400	43,998	-8,000	14,164	51,763		
333+19,889		-14,802	39,360	-6,400	44,962	8,000	44,450	44,897	-0,447	6,400	43,938	-8,000	14,525	52,063		
334+0,000		-14,815	39,350	-6,400	44,960	8,000	44,448	44,901	-0,453	6,400	43,936	-8,000	14,536	52,072		
334+5,253	CS	-14,792	39,304	-6,400	44,899	8,000	44,387	45,070	-0,683	6,400	43,875	-8,000	15,154	52,629		
334+10,000		-14,209	39,361	-6,137	44,742	6,730	44,329	45,197	-0,868	6,412	43,897	-6,730	15,701	53,186		
335+0,000		-13,870	39,203	-6,006	44,445	4,070	44,201	45,338	-1,137	6,021	43,956	-4,070	15,903	53,837		
335+10,000		-5,961	44,226	-5,882	44,146	1,400	44,064	45,041	-0,977	5,600	43,875	-3,370	22,231	57,416		
335+15,253	ST	-5,729	44,118	-5,600	43,989	0,000	43,989	44,784	-0,795	5,600	43,821	-3,000	22,835	57,966		
335+17,003	TS	-5,658	44,021	-5,600	43,963	0,000	43,963	44,699	-0,736	5,600	43,795	-3,000	22,703	57,808		
336+0,000		-6,259	43,488	-5,600	43,927	0,150	43,919	44,553	-0,634	5,600	43,751	-3,000	22,624	57,684		
336+10,000		-12,453	39,233	-5,600	43,801	0,650	43,765	44,057	-0,292	5,600	43,597	-3,000	22,766	57,673		
337+0,000		-12,175	39,283	-5,600	43,667	1,150	43,602	43,585	0,017	5,600	43,434	-3,000	22,692	57,436		
337+10,000		-11,860	39,350	-5,600	43,523	1,650	43,431	43,091	0,340	5,600	43,263	-3,000	22,714	57,287		
338+0,000		-11,563	39,401	-5,600	43,376	2,150	43,256	42,729	0,527	5,600	43,088	-3,000	23,054	57,451		
338+10,000		-11,234	39,473	-5,600	43,229	2,650	43,080	42,326	0,754	5,600	42,912	-3,000	23,281	57,504		
338+17,003	SC	-10,544	39,829	-5,600	43,125	3,000	42,958	42,088	0,870	5,600	42,789	-3,000	22,354	56,453		
339+0,000		-9,707	40,335	-5,600	43,073	3,000	42,905	41,974	0,931	5,600	42,737	-3,000	21,982	56,029		
339+10,000		-7,457	41,659	-5,600	42,898	3,000	42,730	41,576	1,154	5,600	42,562	-3,000	13,717	50,679		
339+11,125		-7,594	41,549	-5,600	42,878	3,000	42,710	41,546	1,164	5,600	42,542	-3,000	13,504	50,446		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		(%)	Distância (m)	Cota (m)		
340+0,000		-10,049	39,757	-5,600	42,722	3,000	42,554	41,338	1,216	5,600	42,386	-3,000	9,849	46,635		
340+5,246	CS	-10,652	39,263	-5,600	42,630	3,000	42,462	41,156	1,306	5,600	42,294	-3,000	6,675	41,578		
340+10,000		-10,806	39,063	-5,600	42,533	2,760	42,379	40,985	1,394	5,600	42,211	-3,000	7,063	41,235		
341+0,000		-11,006	38,726	-5,600	42,330	2,260	42,203	40,945	1,258	5,600	42,035	-3,000	7,189	40,976		
341+10,000		-10,790	38,667	-5,600	42,127	1,760	42,028	39,720	2,308	5,600	41,860	-3,000	7,342	40,699		
342+0,000		-10,192	38,869	-5,600	41,931	1,260	41,860	39,304	2,556	5,600	41,692	-3,000	7,472	40,444		
342+10,000		-10,414	38,540	-5,600	41,750	0,760	41,707	39,056	2,651	5,600	41,543	-2,930	7,440	40,316		
343+0,000		-10,582	38,262	-5,600	41,584	0,260	41,569	38,813	2,756	5,600	41,408	-2,870	7,369	40,229		
343+5,246	ST	-10,551	38,202	-5,600	41,503	0,000	41,503	38,780	2,723	5,600	41,335	-3,000	7,296	40,204		
344+0,000		-10,055	38,257	-5,600	41,227	-1,970	41,338	39,269	2,069	5,600	41,306	-0,560	7,303	40,171		
344+2,136	TS	-10,032	38,236	-5,600	41,190	-2,250	41,316	39,313	2,003	5,600	41,316	0,000	7,320	40,170		
344+10,000		-9,976	38,154	-5,619	41,059	-3,300	41,244	39,746	1,498	5,942	41,365	2,040	7,546	40,296		
345+0,000		-9,904	38,288	-6,016	40,880	-4,630	41,158	39,920	1,238	6,016	41,437	4,630	7,185	40,657		
345+10,000		-9,446	38,522	-6,304	40,617	-7,220	41,073	39,974	1,099	6,194	41,520	7,220	7,193	40,854		
345+12,136	SC	-9,388	38,505	-6,300	40,564	-7,780	41,054	39,961	1,093	6,300	41,544	7,780	7,356	40,840		
346+0,000		-9,539	38,337	-6,300	40,496	-7,780	40,987	39,929	1,058	6,300	41,477	7,780	8,107	40,272		
346+1,069		-9,573	38,305	-6,300	40,487	-7,780	40,977	39,871	1,106	6,300	41,468	7,780	8,163	40,226		
346+10,000		-9,877	38,026	-6,300	40,411	-7,780	40,901	39,304	1,597	6,300	41,391	7,780	8,273	40,076		
347+0,000		-9,305	38,054	-5,600	40,524	-5,190	40,815	38,411	2,404	5,600	41,105	5,190	7,415	39,895		
347+10,000		-9,382	37,978	-5,600	40,500	-4,090	40,729	38,428	2,301	5,600	40,874	2,600	7,178	39,822		
348+0,000		-9,610	37,802	-5,600	40,475	-3,000	40,643	38,507	2,136	5,600	40,643	0,000	6,846	39,813		
348+17,640	TS	-10,193	37,429	-5,600	40,492	0,000	40,492	39,980	0,512	5,600	40,324	-3,000	12,239	46,962		
349+0,000		-10,360	37,410	-5,720	40,503	0,560	40,471	40,088	0,383	5,606	40,303	-3,000	13,200	47,896		
349+10,000		-6,489	40,187	-5,932	40,559	2,930	40,386	41,987	-1,601	5,875	40,142	-4,150	23,788	54,965		
350+0,000		-6,920	39,995	-5,987	40,617	5,300	40,300	44,312	-4,012	6,194	39,971	-5,300	26,076	56,764		
350+7,640	SC	-7,345	39,912	-6,200	40,675	7,110	40,235	44,929	-4,694	6,200	39,794	-7,110	27,209	57,713		
350+10,000		-7,338	39,897	-6,200	40,655	7,110	40,215	45,141	-4,926	6,200	39,774	-7,110	27,541	58,025		
350+10,498		-7,335	39,894	-6,200	40,651	7,110	40,210	45,191	-4,981	6,200	39,769	-7,110	27,603	58,082		
350+13,356	CS	-7,321	39,880	-6,200	40,627	7,110	40,186	45,433	-5,247	6,200	39,746	-7,110	27,973	58,429		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
351+0,000		-6,916	39,876	-6,032	40,465	5,540	40,131	-4,986	39,797	6,029	39,797	-5,540	28,583	59,261		
351+10,000		-6,588	39,876	-6,041	40,241	3,170	40,050	-4,915	39,808	5,645	39,808	-4,270	28,131	59,204		
352+0,000		-6,193	39,866	-5,966	40,017	0,800	39,970	-3,024	39,804	5,509	39,804	-3,000	28,100	59,305		
352+3,356	ST	-5,948	39,876	-5,846	39,943	0,000	39,943	-2,613	39,775	5,600	39,775	-3,000	28,432	59,518		
353+0,000		-5,909	39,956	-5,600	39,647	-3,000	39,815	-2,306	39,647	5,600	39,647	-3,000	28,173	59,130		
354+0,000		-6,135	40,033	-5,600	39,499	-3,000	39,667	-1,689	39,538	5,600	39,538	-2,300	27,834	58,682		
355+0,000		-6,100	39,857	-5,600	39,357	-3,000	39,526	-0,493	39,481	5,600	39,481	-0,800	26,986	57,776		
356+0,000		-5,738	39,363	-5,597	39,223	-3,000	39,391	-0,345	39,430	5,600	39,430	0,700	25,584	56,324		
356+17,428	PC	-9,388	36,711	-5,800	39,103	-3,000	39,277	-0,312	39,393	5,800	39,393	2,010	24,445	54,948		
357+0,000		-9,208	36,814	-5,800	39,086	-3,000	39,260	-0,306	39,387	5,800	39,387	2,200	24,177	54,675		
357+10,000		-8,733	37,065	-5,800	39,020	-3,000	39,194	-0,307	39,345	5,800	39,345	2,600	15,741	49,286		
358+0,000		-8,625	37,071	-5,800	38,955	-3,000	39,129	-0,453	39,303	5,800	39,303	3,000	15,098	48,601		
358+10,000		-8,575	37,039	-5,800	38,889	-3,000	39,063	-0,594	39,237	5,800	39,237	3,000	14,600	48,038		
358+17,695		-8,810	36,832	-5,800	38,839	-3,000	39,013	-0,689	39,187	5,800	39,187	3,000	14,951	48,338		
359+0,000		-8,936	36,733	-5,800	38,824	-3,000	38,998	-0,716	39,172	5,800	39,172	3,000	15,009	48,381		
359+10,000		-9,603	36,223	-5,800	38,758	-3,000	38,932	-0,849	39,106	5,800	39,106	3,000	22,817	53,033		
360+0,000		-10,097	35,828	-5,800	38,693	-3,000	38,867	-1,016	39,041	5,800	39,041	3,000	23,683	53,833		
360+10,000		-10,469	35,514	-5,800	38,627	-3,000	38,801	-1,316	38,943	5,800	38,943	2,450	24,131	54,184		
360+17,962	PT	-10,653	35,340	-5,800	38,575	-3,000	38,749	-1,742	38,865	5,800	38,865	2,010	24,128	54,103		
361+0,000		-10,482	35,393	-5,726	38,564	-3,000	38,736	-1,695	38,842	5,726	38,842	1,860	23,904	53,930		
362+0,000		-10,271	35,363	-5,624	38,461	-3,000	38,630	-1,170	38,650	5,624	38,650	0,360	24,056	53,992		
363+0,000		-10,239	35,320	-5,600	38,413	-2,870	38,574	-0,068	38,510	5,600	38,510	-1,140	5,819	38,729		
364+0,000		-11,572	34,576	-5,600	38,557	-0,190	38,568	1,271	38,420	5,600	38,420	-2,640	6,903	37,552		
365+0,000		-11,047	35,121	-5,600	38,752	2,490	38,612	3,221	38,444	5,600	38,444	-3,000	7,747	37,013		
365+1,532	PC	-11,089	35,109	-5,600	38,769	2,690	38,618	3,241	38,450	5,600	38,450	-3,000	7,767	37,005		
365+10,000		-11,147	35,138	-5,596	38,838	3,300	38,654	3,309	38,459	5,604	38,459	-3,460	8,260	36,689		
365+16,604		-11,203	35,163	-5,600	38,898	3,770	38,688	3,337	38,473	5,600	38,473	-3,820	8,801	36,340		
366+0,000		-11,234	35,179	-5,604	38,932	4,010	38,707	3,327	38,483	5,596	38,483	-4,010	8,918	36,268		
366+10,000		-12,401	34,412	-5,626	38,929	2,880	38,767	4,196	38,592	5,574	38,592	-3,150	11,164	34,865		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito						
		OFFSET		BORDO		Cota Vermelha	Cota Terreno	Cota Projeto	BORDO		OFFSET	BORDO		OFFSET			
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		Distância (m)	Cota (m)		Distância (m)	Cota (m)	
366+11,677	PT	-11,274	35,166	-5,630	38,928	2,690	35,344	38,777	3,433	35,344	38,610	-3,000	5,569	38,610	-3,000	9,360	36,083
366+15,528	PC	-11,232	35,196	-5,600	38,951	2,690	35,393	38,800	3,407	35,393	38,632	-3,000	5,600	38,632	-3,000	9,328	36,147
367+0,000		-11,549	35,038	-5,590	39,011	3,290	35,223	38,827	3,604	35,223	38,643	-3,290	5,590	38,643	-3,290	9,224	36,221
367+10,000		-11,834	34,930	-5,577	39,101	3,650	35,118	38,897	3,779	35,118	38,694	-3,650	5,577	38,694	-3,650	9,742	35,917
368+0,000		-10,339	36,090	-5,575	39,265	4,010	35,515	39,041	3,526	35,515	38,818	-4,010	5,575	38,818	-4,010	10,264	35,692
368+10,000		-7,395	38,287	-5,585	39,494	4,010	37,494	39,270	1,776	37,494	39,046	-4,010	5,585	39,046	-4,010	9,175	36,653
368+17,527		-6,673	39,007	-5,600	39,722	4,010	38,616	39,498	0,882	38,616	39,273	-4,010	5,600	39,273	-4,010	8,727	37,188
369+0,000		-6,457	39,240	-5,606	39,808	4,010	38,870	39,583	0,713	38,870	39,358	-4,010	5,606	39,358	-4,010	8,709	37,290
369+10,000		-6,471	39,652	-5,639	40,206	4,010	39,554	39,980	0,426	39,554	39,754	-4,010	5,639	39,754	-4,010	6,465	39,203
370+0,000		-6,595	40,081	-5,683	40,689	4,010	39,881	40,462	0,581	39,881	40,234	-4,010	5,683	40,234	-4,010	6,314	39,813
370+10,000		-6,747	40,546	-5,738	41,219	3,330	40,637	41,027	0,390	40,637	40,827	-3,490	5,738	40,827	-3,490	6,500	40,319
370+19,526	PT	-6,510	41,320	-5,801	41,792	2,690	41,227	41,636	0,409	41,227	41,462	-3,000	5,801	41,462	-3,000	6,635	40,907
371+0,000		-6,499	41,353	-5,796	41,821	2,660	41,265	41,667	0,402	41,265	41,495	-2,970	5,796	41,495	-2,970	8,466	39,715
372+0,000		-6,778	42,263	-5,600	43,049	1,450	42,311	42,968	0,657	42,311	42,877	-1,620	5,600	42,877	-1,620	7,133	41,855
373+0,000		-6,637	43,590	-5,600	44,282	0,250	43,622	44,268	0,646	43,622	44,253	-0,270	5,600	44,253	-0,270	6,202	43,851
373+4,066		-50,966	80,364	-5,600	44,268	0,000	44,001	44,268	0,267	44,001	44,268	0,000	5,600	44,268	0,000	59,165	85,473





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***4.5 – NOTAS DE SERVIÇO DE PAVIMENTAÇÃO -  
RÓTULA DE INTERSEÇÃO COM O TRECHO 02***

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Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	Distância (m)	Cota (m)				
100+0,000	PC	-5,264	57,220	-2,617	58,984	-2,130	59,040	2,992	56,048	3,718	59,119	2,130				
100+10,000		-9,816	53,491	-2,685	58,245	-3,200	58,331	2,919	55,412	4,106	58,462	3,200				
101+0,000		-13,259	50,487	-2,685	57,536	-3,200	57,622	3,464	54,158	4,535	57,767	3,200				
101+10,000		-12,922	50,002	-2,685	56,827	-3,200	56,913	3,640	53,273	5,073	57,076	3,200				
102+0,000		-11,766	50,065	-2,685	56,118	-3,200	56,204	4,375	51,829	5,718	56,387	3,200				
102+1,264		-11,766	49,976	-2,685	56,030	-3,200	56,116	4,430	51,686	5,718	56,299	3,200				
102+10,000		-10,774	50,110	-2,685	55,503	-3,200	55,589	5,044	50,545	6,726	55,804	3,200				
102+15,023		-10,774	49,871	-2,685	55,264	-3,200	55,350	4,962	50,388	6,726	55,565	3,200				
103+0,000		-10,243	50,035	-2,685	55,073	-3,200	55,159	5,018	50,141	9,012	55,448	3,200				
103+10,000		-9,154	50,507	-2,685	54,819	-3,200	54,905	5,168	49,737	8,592	55,180	3,200				
104+0,000		-5,264	52,709	-2,300	54,685	-3,170	54,758	4,790	49,968	5,500	54,932	3,170				
104+2,528	PT	-5,264	52,686	-2,300	54,662	-3,170	54,735	4,281	50,454	5,500	54,910	3,170				
104+14,125	PC	-5,264	52,662	-2,300	54,638	-3,170	54,711	0,178	54,533	5,500	54,886	3,170				
105+0,000		-10,113	62,308	-2,478	54,673	-3,000	54,748	-2,115	56,863	5,502	54,913	3,000				
105+10,000		-15,146	66,085	-2,300	54,769	-3,000	54,838	-5,094	59,932	5,099	54,991	3,000				
106+0,000		-17,753	68,783	-2,300	54,859	-3,000	54,928	-5,036	59,964	8,949	55,197	3,000				
106+6,914		-17,753	68,845	-2,300	54,922	-3,000	54,991	-4,071	59,062	8,949	55,259	3,000				
106+10,000		-19,450	70,570	-2,300	54,950	-3,000	55,019	-3,648	58,667	7,460	55,242	3,000				
107+0,000		-18,710	69,920	-2,300	55,040	-3,000	55,109	-2,401	57,510	4,956	55,257	3,000				
107+10,000		-18,273	69,573	-2,300	55,130	-3,000	55,199	-1,469	56,668	3,469	55,303	3,000				
107+19,703	PT	-18,273	69,661	-2,300	55,218	-3,000	55,287	-1,319	56,606	3,469	55,391	3,000				
108+0,000		-17,181	68,570	-2,300	55,220	-3,020	55,289	-1,320	56,609	2,894	55,377	3,020				
108+9,717	TS	-17,181	68,658	-2,300	55,307	-3,020	55,377	-1,166	56,543	2,894	55,464	3,020				
108+10,000		-16,379	67,858	-2,300	55,309	-3,070	55,379	-1,162	56,541	3,000	55,471	3,070				
109+0,000		-16,252	67,820	-2,300	55,398	-3,110	55,470	-1,232	56,702	2,999	55,563	3,110				
109+10,000		-16,463	68,120	-2,300	55,487	-3,160	55,560	-1,594	57,154	2,995	55,654	3,160				
109+19,717	SC	-16,463	68,208	-2,300	55,575	-3,160	55,648	-2,276	57,924	2,995	55,742	3,160				
110+0,000		-17,207	68,600	-2,643	55,566	-3,200	55,650	-2,303	57,953	3,325	55,756	3,200				
110+2,639		-17,207	68,623	-2,643	55,589	-3,200	55,674	-2,568	58,242	3,325	55,780	3,200				

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito						
		OFFSET			BORDO			Cota Projeto	Cota Terreno	Cota Vermelha	BORDO			OFFSET			
		Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)	(%)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)	(%)	
110+5,561	CS	-17,207	68,650	-2,643	55,616	-3,200	55,700	58,608	-2,908	3,325	55,807	3,200					
110+10,000		-17,916	69,472	-2,594	55,680	-2,310	55,740	59,223	-3,483	3,250	55,815	2,310					
111+0,000		-16,982	68,792	-2,483	55,823	-0,310	55,831	60,037	-4,206	3,117	55,840	0,310					
111+10,000		-15,698	67,756	-2,373	55,961	1,690	55,921	60,495	-4,574	2,997	55,870	-1,690					
111+15,561	ST	-15,698	67,806	-2,373	56,011	1,690	55,971	59,503	-3,532	2,997	55,920	-1,690					
111+15,567		-15,698	67,800	-2,311	56,040	3,000	55,971	59,501	-3,530	3,311	55,872	-3,000					

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		(%)	Distância (m)	Cota (m)		
200+0,000		-8,424	52,047	-2,300	56,130	3,000	56,061	54,499	1,562	3,000	55,971	-3,000				
200+0,385	TS	-8,417	52,048	-2,300	56,126	2,990	56,058	54,523	1,535	2,999	55,968	-2,990				
200+10,000		-8,335	52,014	-2,300	56,038	2,840	55,973	54,521	1,452	2,980	55,888	-2,840				
201+0,000		-8,316	51,935	-2,300	55,946	2,670	55,884	53,989	1,895	2,973	55,805	-2,670				
201+10,000		-8,397	51,789	-2,300	55,853	2,510	55,796	53,069	2,727	2,978	55,721	-2,510				
201+10,680	SC	-8,786	51,749	-2,627	55,855	2,500	55,789	53,007	2,782	3,305	55,707	-2,500				
201+14,081		-8,469	51,715	-2,300	55,828	3,000	55,759	52,737	3,022	2,981	55,670	-3,000				
201+17,482	CS	-8,480	51,667	-2,300	55,787	2,500	55,729	52,541	3,188	2,985	55,655	-2,500				
202+0,000		-8,502	51,633	-2,300	55,767	2,620	55,707	52,442	3,265	2,987	55,629	-2,620				
202+10,000		-8,641	51,480	-2,342	55,680	2,620	55,619	51,896	3,723	3,036	55,539	-2,620				
203+0,000		-8,907	51,320	-2,571	55,544	0,560	55,530	51,646	3,884	3,269	55,512	-0,560				
203+7,777	ST	-9,068	51,222	-2,748	55,435	-0,950	55,461	51,532	3,929	3,459	55,494	0,950				
203+14,058	PC	-9,198	51,140	-2,892	55,344	-2,130	55,406	51,439	3,967	3,716	55,485	2,130				
204+0,000		-9,287	51,080	-3,021	55,256	-3,200	55,353	51,352	4,001	4,021	55,482	3,200				
204+10,000		-9,734	50,659	-3,021	55,134	-3,200	55,230	51,211	4,019	5,070	55,393	3,200				
205+0,000		-11,243	49,462	-3,021	54,943	-3,200	55,039	51,056	3,983	6,368	55,243	3,200				
205+5,319		-11,602	49,093	-3,021	54,813	-3,200	54,910	50,943	3,967	7,840	55,161	3,200				
205+10,000		-10,636	49,607	-3,021	54,683	-3,200	54,780	50,815	3,965	9,572	55,086	3,200				
206+0,000		-8,355	50,342	-2,300	54,379	-3,200	54,452	49,658	4,794	6,965	54,675	3,200				
206+4,545		-8,355	50,184	-2,300	54,221	-3,200	54,294	48,872	5,422	6,965	54,517	3,200				
206+10,000		-6,489	51,255	-2,300	54,047	-3,200	54,121	49,320	4,801	5,500	54,297	3,200				
206+16,579	PT	-4,838	52,170	-2,300	53,862	-3,200	53,935	49,242	4,693	5,500	54,111	3,200				
207+0,000		-4,037	52,618	-2,300	53,776	-3,200	53,849	49,733	4,116	5,500	54,025	3,200				
207+10,000		-6,703	57,182	-3,061	53,540	-3,200	53,638	53,030	0,608	6,261	53,839	3,200				
207+16,176		-9,495	59,873	-3,061	53,440	-3,200	53,538	54,371	-0,833	8,390	53,806	3,200				
208+0,000		-10,986	61,314	-3,061	53,389	-3,200	53,487	55,247	-1,760	6,642	53,700	3,200				
208+10,000		-16,149	65,612	-2,300	53,293	-3,200	53,366	57,961	-4,595	4,346	53,506	3,200				
208+15,770	PT	-19,035	67,815	-2,925	53,234	-2,130	53,297	58,911	-5,614	4,422	53,391	2,130				
209+0,000		-22,928	70,253	-2,823	53,208	-1,340	53,246	59,100	-5,854	4,127	53,301	1,340				
209+1,128		-23,087	70,548	-2,795	53,316	3,000	53,232	59,109	-5,877	4,048	53,111	-3,000				

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	Distância (m)	Cota (m)				
300+0,000		-2,812	50,584	-2,300	51,055	-3,100	51,126	0,454	50,672	0,454	3,200	51,242	3,100			
300+10,000		-3,368	50,463	-2,300	51,176	-3,100	51,247	0,720	50,527	0,720	3,739	51,363	3,100			
301+0,000		-4,208	50,024	-2,300	51,296	-3,100	51,368	1,066	50,302	1,066	7,026	51,585	3,100			
301+0,996		-4,287	49,983	-2,300	51,308	-3,100	51,380	1,104	50,276	1,104	7,418	51,610	3,100			
301+10,000		-5,997	48,952	-2,300	51,417	-3,100	51,488	1,761	49,727	1,761	6,073	51,677	3,100			
302+0,000		-6,382	48,875	-2,300	51,596	-0,580	51,609	2,572	49,037	2,572	5,664	51,642	0,580			
302+1,992	PRC	-6,475	48,864	-2,300	51,647	0,580	51,633	2,671	48,962	2,671	5,500	51,601	-0,580			
302+7,412		-6,218	49,160	-2,300	51,772	3,200	51,699	2,896	48,803	2,896	5,500	51,523	-3,200			
302+9,482		-6,218	49,185	-2,300	51,797	3,200	51,724	2,995	48,729	2,995	5,500	51,548	-3,200			
302+10,000		-5,434	49,701	-2,300	51,790	2,600	51,730	3,057	48,673	3,057	5,500	51,587	-2,600			
302+12,833	PT	-4,949	50,034	-2,300	51,801	1,580	51,764	3,083	48,681	3,083	5,500	51,677	-1,580			
303+0,000		-4,873	50,141	-2,300	51,856	-0,570	51,869	1,926	49,943	1,926	5,500	51,901	0,570			
303+6,566	PC	-4,949	50,218	-2,300	51,984	-1,930	52,028	1,906	50,122	1,906	5,500	52,135	1,930			
303+10,000		-4,951	50,309	-2,300	52,076	-2,640	52,137	1,911	50,226	1,911	5,500	52,282	2,640			
304+0,000		-4,831	50,798	-2,300	52,485	-2,900	52,552	1,389	51,163	1,389	10,439	52,855	2,900			
304+0,593		-4,831	50,827	-2,300	52,514	-2,900	52,581	1,389	51,192	1,389	10,439	52,884	2,900			
304+7,481		-4,597	51,360	-2,300	52,892	-2,900	52,958	1,403	51,555	1,403	9,308	53,228	2,900			
304+10,000		-4,564	51,538	-2,300	53,047	-2,900	53,114	1,449	51,665	1,449	8,507	53,360	2,900			
305+0,000		-4,898	52,005	-2,300	53,738	-2,900	53,804	1,647	52,157	1,647	5,500	53,964	2,900			
305+8,395	PRC	-5,336	52,388	-2,300	54,412	0,540	54,399	1,836	52,563	1,836	4,854	54,373	-0,540			
305+10,000		-5,424	52,470	-2,300	54,553	1,730	54,513	1,878	52,635	1,878	4,694	54,432	-1,730			
306+0,000		-5,461	53,184	-2,300	55,291	3,000	55,222	1,832	53,390	1,832	3,872	55,106	-3,000			
306+7,104		-4,733	54,173	-2,300	55,795	3,000	55,726	1,791	53,935	1,791	3,473	55,622	-3,000			
306+10,000		-4,274	54,684	-2,300	56,000	3,000	55,931	1,781	54,150	1,781	3,355	55,830	-3,000			
307+0,000		-2,982	56,254	-2,300	56,709	3,000	56,640	1,567	55,073	1,567	3,142	56,546	-3,000			
307+5,812	PT	-2,326	57,104	-2,300	57,121	3,000	57,052	1,394	55,658	1,394	3,159	56,957	-3,000			
307+7,970		-8,751	63,725	-2,300	57,274	3,000	57,205	1,328	55,877	1,328	3,199	57,109	-3,000			

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Vermelha	Cota Terreno	Cota Projeto	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)			
400+0,000				-7,592	54,863	2,000	54,711	50,751	3,960	17,197	54,367	-2,000				
400+10,000				-13,753	54,898	2,910	54,498	50,744	3,754	18,088	53,971	-2,910				
401+0,000				-13,819	54,699	3,000	54,284	50,025	4,259	18,016	53,744	-3,000				
401+10,000				-8,321	54,333	3,000	54,083	48,924	5,159	17,951	53,545	-3,000				
402+0,000				-13,820	54,387	3,000	53,972	49,507	4,465	17,934	53,434	-3,000				
402+7,123				-13,820	54,370	3,000	53,955	50,056	3,899	17,934	53,417	-3,000				
402+10,000				-9,242	54,240	3,000	53,963	49,976	3,987	17,847	53,428	-3,000				
403+0,000				-8,320	54,305	3,000	54,056	49,380	4,676	17,981	53,516	-3,000				
403+10,000				-12,369	54,609	3,000	54,238	49,598	4,640	17,637	53,709	-3,000				
404+0,000				-13,820	54,848	3,000	54,433	50,764	3,669	17,779	53,900	-3,000				
404+10,000				-8,683	54,835	2,390	54,628	50,839	3,789	17,108	54,220	-2,390				
404+14,246				-7,592	54,863	2,000	54,711	50,751	3,960	17,197	54,367	-2,000				





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***4.6 – NOTAS DE SERVIÇO DE PAVIMENTAÇÃO –  
RÓTULA DE INTERSEÇÃO COM O TRECHO 04***

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Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO		Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET					
		Distância (m)	Cota (m)	Distância (m)	Cota (m)				Distância (m)	Cota (m)		(%)	Distância (m)	Cota (m)		
100+0,000		-3,345	37,894	-2,300	36,849	-3,000	36,918	38,182	-1,264	3,300	36,819	-3,000				
100+10,000		-3,491	38,232	-2,300	37,041	-3,000	37,110	37,868	-0,758	4,118	36,986	-3,000				
101+0,000		-2,371	37,306	-2,300	37,235	-3,000	37,304	37,788	-0,484	5,175	37,148	-3,000				
101+10,000		-7,590	33,407	-1,500	37,467	-3,000	37,512	36,561	0,951	7,623	37,370	-1,000				
101+10,352		-7,916	33,197	-1,500	37,474	-3,000	37,519	36,469	1,050	7,748	37,376	-1,000				
102+0,000		-11,026	31,341	-1,500	37,691	-3,000	37,736	31,544	6,192	11,151	37,559	-1,000				
102+6,077		-11,026	31,485	-1,500	37,836	-3,000	37,881	30,681	7,200	11,151	37,703	-1,000				
102+10,000		-11,954	31,472	-2,300	37,908	-3,000	37,977	31,708	6,269	5,500	37,812	-3,000				
103+0,000		-11,952	31,729	-2,300	38,164	-3,000	38,233	32,313	5,920	5,500	38,068	-3,000				
103+0,703	PT	-11,958	31,743	-2,300	38,182	-3,000	38,251	32,388	5,863	5,500	38,086	-3,000				
104+0,000		-12,621	31,797	-2,300	38,678	-3,000	38,747	32,524	6,223	6,940	38,568	-1,000				
104+11,906	PC	-12,657	32,080	-2,300	38,985	-3,000	39,054	36,681	2,373	7,571	38,868	-1,000				
105+0,000		-12,728	32,241	-2,300	39,193	-3,000	39,262	37,356	1,906	5,374	39,101	-3,000				
105+2,201		-12,755	32,280	-2,300	39,250	-3,000	39,319	37,432	1,887	4,678	39,178	-3,000				
105+10,000		-12,880	32,397	-2,300	39,450	-3,000	39,519	37,703	1,816	3,400	39,417	-3,000				
105+12,497	PRC	-12,929	32,428	-2,300	39,515	-3,000	39,584	37,752	1,832	3,356	39,483	-3,000				
106+0,000		-12,246	33,077	-2,300	39,708	-3,000	39,777	37,859	1,918	3,375	39,675	-3,000				
106+0,951		-12,227	33,114	-2,300	39,732	-3,000	39,801	37,881	1,920	3,364	39,700	-3,000				
106+9,405	PT	-12,328	33,265	-2,300	39,950	-3,000	40,019	38,101	1,918	3,132	39,925	-3,000				
106+12,139		-12,660	33,113	-2,300	40,020	-3,000	40,089	38,152	1,937	3,072	39,997	-3,000				

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO			Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET				
		Distância (m)	Cota (m)	Distância (m)	Cota (m)	(%)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)		
200+0,000				-3,300	40,905	-3,000	41,004	45,904	-4,900	2,300	40,935	-3,000	21,510	57,055		
200+10,000				-3,792	40,590	-3,000	40,704	46,720	-6,016	2,300	40,635	-3,000	25,060	60,305		
200+15,878				-4,540	40,391	-3,000	40,528	47,076	-6,548	2,300	40,459	-3,000	32,813	64,792		
201+0,000				-5,198	40,248	-3,000	40,404	47,268	-6,884	2,300	40,335	-3,000	33,727	65,582		
201+10,000				-5,500	39,939	-3,000	40,104	47,251	-7,147	2,300	40,035	-3,000	33,210	64,765		
201+11,756	PRC			-5,755	39,879	-3,000	40,051	47,110	-7,059	2,300	39,982	-3,000	32,991	64,493		
202+0,000				-7,638	39,575	-3,000	39,804	46,546	-6,742	2,300	39,735	-3,000	32,781	64,036		
202+5,157				-9,233	39,372	-3,000	39,649	46,239	-6,590	2,300	39,580	-3,000	32,758	63,858		
202+10,000				-8,299	39,255	-3,000	39,504	44,644	-5,140	2,300	39,435	-3,000	32,457	63,412		
202+18,557	PT			-6,000	39,067	-3,000	39,247	42,420	-3,173	2,300	39,178	-3,000	31,793	62,491		
203+0,000				-6,000	39,024	-3,000	39,204	42,334	-3,130	2,300	39,135	-3,000	31,672	62,327		
204+0,000				-6,000	38,542	-3,000	38,722	42,201	-3,479	2,300	38,653	-3,000	22,077	55,340		
204+1,113	PC			-6,000	38,529	-3,000	38,709	39,875	-1,166	2,300	38,640	-3,000	21,713	54,963		
204+10,000				-8,319	38,423	-3,000	38,672	43,526	-4,854	2,300	38,603	-3,000	20,447	53,660		
205+0,000				-8,002	38,522	-3,000	38,762	42,975	-4,213	2,300	38,693	-3,000	19,485	52,788		
205+7,665				-5,580	38,757	-3,000	38,925	41,745	-2,820	2,300	38,856	-3,000	18,716	52,182		
205+10,000				-5,237	38,828	-3,000	38,985	41,074	-2,089	2,300	38,916	-3,000	18,373	51,898		
206+0,000				-4,120	39,118	-3,000	39,242	39,600	-0,358	2,300	39,173	-3,000	11,510	48,383		
206+10,000				-3,581	39,391	-3,000	39,499	39,438	0,061	2,300	39,430	-3,000	18,086	52,126		
206+14,216				-3,528	39,501	-3,000	39,607	39,687	-0,080	2,300	39,538	-3,000	18,606	52,754		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO			Cota Projeto	Cota Terreno	Cota Vermelha	Distância (m)	Cota (m)	BORDO (%)	Distância (m)	OFFSET		
		Distância (m)	Cota (m)	Distância (m)	Cota (m)	(%)									Distância (m)	Cota (m)
300+0,000				-3,300	36,678	-3,000	36,777	40,781	-4,004	2,300	36,708	-3,000	24,720	56,038		
300+9,667	PC			-3,161	36,868	-3,000	36,962	39,292	-2,330	2,300	36,893	-3,000	31,756	60,170		
300+10,000				-3,175	36,874	-3,000	36,969	39,205	-2,236	2,300	36,900	-3,000	31,740	60,159		
301+0,000				-4,551	37,026	-3,000	37,163	37,201	-0,038	2,300	37,094	-3,000	31,428	60,042		
301+10,000				-6,955	37,170	-3,000	37,379	36,657	0,722	2,300	37,310	-3,000	24,394	56,314		
301+17,135				-8,940	37,282	-3,000	37,550	37,236	0,314	2,300	37,481	-3,000	21,793	53,883		
302+0,000				-9,855	37,326	-3,000	37,622	37,339	0,283	2,300	37,553	-3,000	20,802	52,965		
302+10,000				-5,500	37,727	-3,000	37,892	36,601	1,291	2,300	37,823	-3,000	7,296	42,819		
303+0,000				-5,500	38,023	-3,000	38,188	34,357	3,831	2,300	38,119	-3,000	4,321	36,771		
303+4,604	PRC			-5,500	38,161	-3,000	38,326	34,202	4,124	2,300	38,257	-3,000	5,405	36,187		
303+9,600				-5,500	38,311	-3,000	38,476	33,872	4,604	2,300	38,407	-3,000	8,288	34,414		
303+10,000				-5,500	38,323	-3,000	38,488	33,509	4,979	2,300	38,419	-3,000	8,586	34,228		
303+14,596	PRC			-5,500	38,460	-3,000	38,625	31,645	6,980	2,300	38,556	-3,000	9,408	33,818		
303+15,570				-5,500	38,490	-3,000	38,655	31,231	7,424	2,300	38,586	-3,000	9,408	33,847		
304+0,000				-5,500	38,623	-3,000	38,788	30,717	8,071	2,300	38,719	-3,000	10,103	33,517		
304+10,000				-7,245	38,870	-3,000	39,088	33,168	5,920	2,300	39,019	-3,000	12,126	32,468		
305+0,000				-7,903	39,151	-3,000	39,388	37,419	1,969	2,300	39,319	-3,000	14,878	30,933		
305+5,834				-6,203	39,377	-3,000	39,563	37,530	2,033	2,300	39,494	-3,000	15,593	30,632		
305+10,000				-5,470	39,524	-3,000	39,688	37,771	1,917	2,300	39,619	-3,000	5,097	37,754		
306+0,000				-3,306	39,889	-3,000	39,988	39,177	0,811	2,300	39,919	-3,000	5,133	38,030		
306+10,000				-3,300	40,189	-3,000	40,288	40,318	-0,030	2,300	40,219	-3,000	5,178	38,300		
306+17,072				-3,300	40,401	-3,000	40,500	39,084	1,416	2,300	40,431	-3,000	5,262	38,456		

Estaca	Pontos Notáveis	Lado Esquerdo						Eixo			Lado Direito					
		OFFSET		BORDO			Cota Projeto	Cota Terreno	Cota Vermelha	BORDO		OFFSET				
		Distância (m)	Cota (m)	Distância (m)	Cota (m)	(%)				Distância (m)	Cota (m)	(%)	Distância (m)	Cota (m)		
400+0,000				-14,239	38,583	-1,000	38,725	33,704	5,021	4,500	38,590	-3,000				
400+10,000				-14,297	38,687	-1,000	38,830	33,808	5,022	10,487	38,525	-1,000				
401+0,000				-14,145	38,793	-1,000	38,935	35,411	3,524	9,657	38,645	-3,000				
401+10,000				-13,195	38,906	-1,000	39,038	34,848	4,190	4,500	38,903	-3,000				
401+19,273				-13,195	38,968	-1,000	39,100	31,148	7,952	4,500	38,965	-3,000				
402+0,000				-13,650	38,967	-1,000	39,103	35,403	3,700	5,947	38,925	-3,000				
402+7,124				-13,528	38,982	-1,000	39,117	36,020	3,097	13,305	38,784	-1,000				
402+10,000				-13,360	38,982	-1,000	39,115	36,358	2,757	13,053	38,785	-1,000				
403+0,000				-13,579	38,939	-1,000	39,075	36,995	2,080	4,594	38,937	-3,000				
403+10,000				-13,668	38,847	-1,000	38,983	36,826	2,157	5,806	38,809	-3,000				
404+0,000				-14,060	38,736	-1,000	38,877	37,062	1,815	13,514	38,542	-1,000				
404+10,000				-14,267	38,628	-1,000	38,770	34,091	4,679	5,309	38,611	-3,000				
404+14,248				-14,239	38,628	-1,000	38,770	33,704	5,066	4,500	38,635	-3,000				



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## *4.7 – NOTAS DE SERVIÇO DE DRENAGEM E OAC*

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BACIA N.º	N.º DO BUEIRO	LOCALIZAÇÃO (estaca)	BUEIRO			COTAS FINAIS E TIPOS DE SAÍDA				OBSERVAÇÕES				
			Tipo e Dimensão Bueiro	Esc.	Comprimento (m)		Tipo de bueiro	Tipo de serviço	ESQUERDA		DIREITA			
					Esquerdo	Direito			COTA		TIPO	COTA	TIPO	
01	01	4 + 0,00	BSTC Ø 0,80	0	7,5	7,5	C	IMPLANTAR	33,737	CX	33,609	BO	DEB-03	
02	02	18 + 6,00	BSTC Ø 0,80	0	6,50	11,50	C	IMPLANTAR	33,519	CX	33,366	BO	DEB-03	
-	-	29 + 0,00	BSTC Ø 0,80	0	3,50	3,50	-	IMPLANTAR	-	BO	-	BO	-	Bueiro Longitudinal (LD)
03	03	33 + 0,00	BSTC Ø 0,80	0	8,50	8,50	C	IMPLANTAR	34,996	BO/DA	35,135	BO	DEB-03	
04	04	43 + 0,00	BSTC Ø 0,80	0	8,00	5,00	C	IMPLANTAR	34,730	BO/DA	34,841	CX	DEB-03	
05	05	48 + 15,00	BDCC 2,0 X 2,00	-30	50,00	17,50	C	IMPLANTAR	30,737	BO	30,327	BO	-	Interseção Trecho 03 com Trecho 04
06	06	49 + 0,00	BSTC Ø 1,00	-20	9,00	16,00	-	DEMOLIR	30,230	-	30,090	-	-	
07	07	59 + 0,00	BSTC Ø 0,80	0	8,00	5,00	C	IMPLANTAR	42,692	BO/DA	42,800	CX	DEB-03	
08	08	79 + 6,00	BSTC Ø 1,00	-15	3,50	7,50	-	DEMOLIR	32,920	-	33,140	-	-	
09	09	79 + 10,00	BTTC Ø 1,50	-15	10,50	10,50	C	IMPLANTAR	33,983	BO	34,068	BO	DEB-12	
10	10	96 + 5,00	BSTC Ø 1,00	0	6,50	7,50	C	IMPLANTAR	50,895	CX	50,778	BO/DA	DEB-04	
11	11	102 + 10,00	BSTC Ø 0,80	0	7,50	7,50	C	IMPLANTAR	52,288	BO	52,159	BO/DA	DEB-03	
-	-	113 + 10,00	BSTC Ø 0,80	0	3,50	3,50	C	IMPLANTAR	-	BO	-	BO	-	Bueiro Longitudinal (LE)
10	12	114 + 3,00	BSTC Ø 1,00	0	4,00	11,15	-	DEMOLIR	42,370	-	40,880	-	-	
10	13	114 + 7,00	BSTC Ø 0,80	10	10,80	3,50	-	DEMOLIR	41,060	-	40,930	-	-	
10	14	114 + 12,00	BTTC Ø 1,50	30	14,00	12,00	C	IMPLANTAR	41,045	BO	40,829	BO	DEB-12	
11	15	119 + 10,00	BSTC Ø 0,80	0	10,50	10,50	C	IMPLANTAR	42,932	BO/DA	43,137	BO	DEB-03	
12	16	129 + 0,00	BSTC Ø 0,80	0	8,00	9,00	C	IMPLANTAR	46,622	BO/DA	46,766	CX	DEB-03	
13	17	136 + 15,00	BSTC Ø 0,80	0	7,50	7,50	C	IMPLANTAR	46,813	BO/DA	46,942	CX	DEB-03	
14	18	144 + 0,00	BSTC Ø 0,80	0	8,00	5,00	C	IMPLANTAR	45,896	BO/DA	46,000	CX	DEB-03	
15	19	150 + 7,00	BSTC Ø 1,20	5	9,00	9,00	C	IMPLANTAR	45,031	BO	45,179	BO	DEB-05	
15	20	150 + 10,00	BSTC Ø 0,30	10	3,80	2,20	-	DEMOLIR	45,040	-	45,430	-	-	
16	21	161 + 10,00	BSTC Ø 0,80	5	4,00	6,40	-	DEMOLIR	45,150	-	45,380	-	-	
16	22	161 + 15,00	BTTC Ø 1,20	0	11,00	11,00	C	IMPLANTAR	45,350	BO	45,528	BO	DEB-11	
-	-	164 + 5,00	BSTC Ø 0,80	0	3,50	3,50	C	IMPLANTAR	-	BO	-	BO	-	Bueiro Longitudinal (LD)
17	23	191 + 7,00	BSCC 2,0 x 2,0	-10	9,00	9,00	C	IMPLANTAR	49,032	BO	49,221	BO	-	
17	24	191 + 9,00	BSTC Ø 0,60	-5	3,30	6,10	-	DEMOLIR	48,290	-	48,490	-	-	
18	25	200 + 17,00	BSTC Ø 0,60	10	7,20	-	-	DEMOLIR	51,130	-	51,180	-	-	
18	26	203 + 11,00	BSTC Ø 0,80	0	8,00	-	-	DEMOLIR	51,950	-	51,910	-	-	
18	27	203 + 5,00	BTTC Ø 1,20	0	9,50	9,50	C	IMPLANTAR	52,329	BO	52,177	BO	DEB-11	
19	28	215 + 15,00	BSTC Ø 0,80	0	8,50	5,50	C	IMPLANTAR	62,499	BO/DA	62,627	CX	DEB-03	
20	29	227 + 10,00	BSTC Ø 0,80	0	8,00	5,00	C	IMPLANTAR	76,548	BO/DA	76,656	CX	DEB-03	
21	30	238 + 10,00	BSTC Ø 0,80	0	8,00	5,00	C	IMPLANTAR	94,400	BO/DA	94,511	CX	DEB-03	
22	31	248 + 10,00	BSTC Ø 0,80	0	10,50	5,50	C	IMPLANTAR	92,317	BO/DA	92,479	CX	DEB-03	
23	32	262 + 0,00	BSTC Ø 0,80	0	12,00	5,00	C	IMPLANTAR	68,299	BO/DA	68,424	CX	DEB-03	
24	33	272 + 10,00	BSTC Ø 1,20	15	9,00	31,00	C	IMPLANTAR	50,063	BO	50,371	BO	DEB-05	Interseção Trecho 03 com Trecho 02

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO  
 CONSULTORIA: Projemax Engenharia e Consultoria Ltda.  
 Projeto 03  
 Área: Projeto - Santa Lúcia - Cancela  
 Elaborado: 7/4/11  
 Escala: sem escala  
 Data: JANEIRO DE 2011  
 Folha nº 01 DE 02  
 Vício: RESERVA







N°	LOCALIZAÇÃO (ESTACA)				EXTENSÃO TOTAL (m)	PROJETO TIPO	TIPO DE SERVIÇO	DISPOSITIVO DE SAÍDA		OBSERVAÇÕES
	LADO ESQUERDO		LADO DIREITO					ESTACA	PROJETO TIPO	
	INÍCIO	FINAL	INÍCIO	FINAL						
	0 + 0,00	7 + 10,00			150,00	VPA-02	IMPLANTAR	0 + 0,00	DES-03	
					-	-	-	4 + 0,00	CAIXA	
	26 + 5,00	29 + 10,00	27 + 0,00	37 + 5,00	65,00	VPA-02	IMPLANTAR	29 + 10,00	DES-03	
					205,00	VPA-02	IMPLANTAR	27 + 0,00	DES-03	Bueiro Longitudinal
					-	-	-	33 + 0,00	BUEIRO	
	79 + 10,00	80 + 10,00	75 + 0,00	79 + 10,00	90,00	VPA-02	IMPLANTAR	79 + 10,00	BUEIRO	
	95 + 15,00	97 + 0,00			20,00	VPA-02	IMPLANTAR	79 + 10,00	BUEIRO	
	102 + 0,00	103 + 0,00			25,00	VPA-02	IMPLANTAR	96 + 5,00	CAIXA	
	113 + 15,00	114 + 12,00			20,00	VPA-02	IMPLANTAR	102 + 10,00	BUEIRO	
					17,00	VPA-02	IMPLANTAR	114 + 12,00	BUEIRO	Bueiro Longitudinal
			117 + 0,00	124 + 10,00	150,00	VPA-02	IMPLANTAR	119 + 10,00	BUEIRO	
			134 + 15,00	137 + 5,00	50,00	VPA-02	IMPLANTAR	136 + 15,00	CAIXA	
			148 + 10,00	157 + 0,00	170,00	VPA-02	IMPLANTAR	150 + 7,00	BUEIRO	
			159 + 5,00	168 + 0,00	175,00	VPA-02	IMPLANTAR	161 + 15,00	BUEIRO	Bueiro Longitudinal
			189 + 0,00	191 + 7,00	47,00	VPA-02	IMPLANTAR	191 + 7,00	BUEIRO	
	189 + 10,00	196 + 10,00			140,00	VPA-02	IMPLANTAR	191 + 7,00	BUEIRO	
	199 + 0,00	203 + 11,00			91,00	VPA-02	IMPLANTAR	203 + 11,00	BUEIRO	
			203 + 11,00	207 + 15,00	84,00	VPA-02	IMPLANTAR	203 + 11,00	BUEIRO	
	239 + 0,00	240 + 5,00			25,00	VPA-02	IMPLANTAR	239 + 0,00	DES-03	
	282 + 10,00	284 + 5,00			35,00	VPA-02	IMPLANTAR	284 + 5,00	BUEIRO	
			284 + 5,00	290 + 15,00	130,00	VPA-02	IMPLANTAR	284 + 5,00	BUEIRO	
			299 + 5,00	301 + 10,00	45,00	VPA-02	IMPLANTAR	300 + 0,00	CAIXA	
			318 + 0,00	333 + 0,00	300,00	VPA-02	IMPLANTAR	330 + 10,00	CAIXA	
			340 + 0,00	348 + 15,00	175,00	VPA-02	IMPLANTAR	347 + 10,00	CAIXA	
	361 + 0,00	366 + 10,00			110,00	VPA-02	IMPLANTAR	366 + 10,00	BUEIRO	
			363 + 0,00	366 + 10,00	70,00	VPA-02	IMPLANTAR	366 + 10,00	BUEIRO	
Interseção Trecho 03 com Trecho 02										
	103 + 5,00	104 + 10,00			25,00	VPA-02	IMPLANTAR	103 + 5,00	BUEIRO	Ramo 100
	205 + 0,00	207 + 5,00			45,00	VPA-02	IMPLANTAR	205 + 0,00	BUEIRO	Ramo 200
	304 + 10,00	306 + 0,00			30,00	VPA-02	IMPLANTAR	304 + 10,00	DES-03	Ramo 300
<b>Quantidade Parcial de Implantação de Dissipador de Energia DES-03:</b>					<b>5,00</b>					<b>unidades</b>
<b>Extensão Total Implantação de Valeta de Proteção de Aterro VPA-02:</b>					<b>2.489,00</b>					<b>metros</b>

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

CONSULTORIA: Projemax Engenharia e Consultoria Ltda.

Projemax Engenharia e Consultoria Ltda.

Projeto de Engenharia e Consultoria Ltda.

Projeto de Engenharia e Consultoria Ltda.

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Projeto de Engenharia e Consultoria Ltda.

Projeto de Engenharia e Consultoria Ltda.

Projeto de Engenharia e Consultoria Ltda.

N°	LOCALIZAÇÃO (ESTACA)				EXTENSÃO TOTAL (m)	PROJETO TIPO	TIPO DE SERVIÇO	DISPOSITIVO DE SAÍDA		OBSERVAÇÕES
	LADO ESQUERDO		LADO DIREITO					ESTACA	PROJETO TIPO	
	INÍCIO	FINAL	INÍCIO	FINAL						
	7 + 10,00	13 + 10,00			120,00	VPC-03	IMPLANTAR	7 + 10,00	VPA-02	
	18 + 6,00	26 + 5,00			159,00	VPC-03	IMPLANTAR	13 + 10,00	DES-04	
								18 + 6,00	CAIXA	
			37 + 5,00	46 + 0,00	175,00	VPC-03	IMPLANTAR	26 + 5,00	VPA-02	Continuação na Interseção
			53 + 12,00	75 + 0,00	428,00	VPC-03	IMPLANTAR	37 + 5,00	VPA-02	Continuação na Interseção
								43 + 0,00	DSC-01	
								59 + 0,00	DSC-01	
								75 + 0,00	VPA-02	
	80 + 10,00	95 + 15,00			305,00	VPC-03	IMPLANTAR	80 + 10,00	VPA-02	
								95 + 15,00	VPA-02	
	97 + 0,00	102 + 0,00			100,00	VPC-03	IMPLANTAR	97 + 0,00	VPA-02	
								102 + 0,00	VPA-02	
	103 + 0,00	113 + 10,00			210,00	VPC-03	IMPLANTAR	103 + 0,00	BUEIRO	
								113 + 10,00	DES-04	
			115 + 10,00	117 + 0,00	30,00	VPC-03	IMPLANTAR	115 + 10,00	DES-04	
								117 + 0,00	VPA-02	
			124 + 10,00	134 + 15,00	205,00	VPC-03	IMPLANTAR	124 + 10,00	VPA-02	
								129 + 10,00	DSC-01	
								134 + 15,00	VPA-02	
			137 + 5,00	148 + 10,00	225,00	VPC-03	IMPLANTAR	137 + 5,00	VPA-02	
								144 + 0,00	DSC-01	
								148 + 10,00	VPA-02	
			157 + 0,00	159 + 5,00	45,00	VPC-03	IMPLANTAR	157 + 0,00	VPA-02	
								159 + 5,00	VPA-02	
			168 + 0,00	177 + 10,00	190,00	VPC-03	IMPLANTAR	177 + 10,00	DES-04	
			184 + 10,00	189 + 0,00	90,00	VPC-03	IMPLANTAR	177 + 10,00	DES-04	
								184 + 10,00	VPA-02	
								189 + 0,00	VPA-02	
	196 + 10,00	199 + 0,00			50,00	VPC-03	IMPLANTAR	196 + 10,00	VPA-02	
								199 + 0,00	VPA-02	
			207 + 15,00	269 + 10,00	1.235,00	VPC-03	IMPLANTAR	207 + 15,00	VPA-02	
								215 + 15,00	DSC-01	
								227 + 10,00	DSC-01	
								238 + 10,00	DSC-01	
								248 + 10,00	DSC-01	
								262 + 0,00	DSC-01	

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

CONSULTORIA: Projemax Engenharia e Consultoria Ltda.

Projemax  
Travessa 03  
Água Pretinha - Santa Lúcia - Canela

Estados: sem escala

PROJETO DE DRENAGEM

NOTA DE SERVIÇO - VALETA DE PROTEÇÃO DE CORTE

DATA: JANEIRO DE 2018

FECHA: JANEIRO DE 2018

PROJETA

N°	LOCALIZAÇÃO (ESTACA)				EXTENSÃO TOTAL (m)	PROJETO TIPO	TIPO DE SERVIÇO	DISPOSITIVO DE SAÍDA		OBSERVAÇÕES
	LADO ESQUERDO		LADO DIREITO					ESTACA	PROJETO TIPO	
	INÍCIO	FINAL	INÍCIO	FINAL						
								269 + 10,00	-	Continuação na Interseção
								290 + 15,00	299 + 5,00	VPA-02
								294 + 10,00	-	DSC-01
								299 + 15,00	-	VPA-02
								301 + 10,00	318 + 0,00	VPA-02
								318 + 0,00	-	VPA-02
								333 + 0,00	340 + 0,00	VPA-02
								340 + 0,00	-	VPA-02
								348 + 15,00	363 + 0,00	VPA-02
								358 + 10,00	-	DSC-01
								363 + 0,00	-	VPA-02
Interseção Trecho 03 com Trecho 04										
	200 + 0,00	206 + 15,00			135,00	VPC-03	IMPLANTAR	200 + 0,00	-	Ramo 200/Continuação na Rodovia
					-	-	-	206 + 15,00	-	Ramo 200/Continuação na Rodovia
					70,00	VPC-03	IMPLANTAR	300 + 0,00	-	Ramo 300/Continuação na Rodovia
					-	-	-	303 + 10,00	-	Ramo 300
Interseção Trecho 03 com Trecho 02										
	104 + 10,00	111 + 15,00			145,00	VPC-03	IMPLANTAR	104 + 10,00	-	Ramo 100/Continuação na Rodovia
					-	-	-	111 + 15,00	-	Ramo 100
	207 + 5,00	209 + 1,00			36,00	VPC-03	IMPLANTAR	207 + 5,00	-	Ramo 200
					-	-	-	209 + 1,00	-	Ramo 200/Continuação na Rodovia
					28,00	VPC-03	IMPLANTAR	306 + 0,00	-	Ramo 300
					-	-	-	307 + 8,00	-	Ramo 300/Continuação na Rodovia
Quantidade Parcial de Implantação de Dissipador de Energia DES-04: 6,00 unidades										
Extensão Total de Implantação de Valeta de Proteção de Corte VPC-03: 4.906,00 metros										

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO  
 CONSULTORIA: Projemax Engenharia e Consultoria Ltda.  
 Projeto 03  
 Água Pretinha - Santa Lúcia - Cancela  
 Estação: 7+0 Km  
 Data: JANEIRO DE 2017  
 Folha nº DRE 07  
 VEBZ: NOTA DE SERVIÇO - VALETA DE PROTEÇÃO DE CORTE  
 PROJETISTA: \_\_\_\_\_

N°	LOCALIZAÇÃO ( ESTACA )				EXTENSÃO TOTAL (m)	PROJETO TIPO	TIPO DE SERVIÇO	DISPOSITIVO DE SAÍDA		TIPO DE SERVIÇO	OBSERVAÇÕES
	LADO ESQUERDO		LADO DIREITO					ESTACA	PROJETO TIPO		
	INÍCIO	FINAL	INÍCIO	FINAL							
	7 + 10,00	13 + 0,00			110,00	SCC-DP-01	IMPLANTAR	7 + 5,00	VPA-02	-	
	13 + 0,00	18 + 6,00			106,00	SRC-01	IMPLANTAR	18 + 6,00	CAIXA	-	Cobrar na declividade do terreno
	18 + 6,00	26 + 5,00			159,00	SCC-DP-01	IMPLANTAR	18 + 6,00	CAIXA	-	
	21 + 10,00	22 + 15,00			25,00	SCC-DP-01	IMPLANTAR	26 + 5,00	VPA-02	-	
					-	-	-	21 + 10,00	VPC-03	-	Banqueta de Corte
					-	-	-	22 + 15,00	VPC-03	-	
			23 + 0,00	25 + 15,00	55,00	SCC-DP-01	IMPLANTAR	25 + 15,00	SDC-01	IMPLANTAR	
			37 + 10,00	46 + 0,00	170,00	SCC-DP-01	IMPLANTAR	37 + 10,00	VPA-02	-	Continuação na Interseção
					-	-	-	43 + 0,00	CAIXA	-	
			39 + 10,00	42 + 5,00	55,00	SCC-DP-01	IMPLANTAR	39 + 10,00	VPC-03	-	Banqueta de Corte
					-	-	-	42 + 5,00	VPC-03	-	
	45 + 10,00	46 + 0,00			10,00	SCC-DP-01	IMPLANTAR	45 + 10,00	SDC-01	IMPLANTAR	Continuação na interseção
			45 + 10,00	46 + 0,00	10,00	SCC-DP-01	IMPLANTAR	45 + 10,00	VPC-03	-	Banqueta de Corte/Continuação na Interseção
			53 + 13,00	75 + 0,00	427,00	SCC-DP-01	IMPLANTAR	59 + 0,00	CAIXA	-	
					-	-	-	75 + 0,00	VPA-02	-	
			53 + 13,00	54 + 15,00	22,00	SCC-DP-01	IMPLANTAR	54 + 15,00	VPC-03	-	Banqueta de Corte/Continuação na Interseção
	55 + 15,00	62 + 10,00			135,00	SCC-DP-01	IMPLANTAR	59 + 0,00	DSA-03	-	Banqueta de Aterro
			60 + 0,00	74 + 0,00	280,00	SCC-DP-01	IMPLANTAR	60 + 0,00	VPC-03	-	Banqueta de Corte
					-	-	-	74 + 0,00	VPC-03	-	
			61 + 10,00	73 + 10,00	240,00	SCC-DP-01	IMPLANTAR	61 + 10,00	VPC-03	-	Banqueta de Corte
					-	-	-	73 + 10,00	VPC-03	-	
	66 + 10,00	69 + 10,00			60,00	SCC-DP-01	IMPLANTAR	66 + 10,00	SDC-01	IMPLANTAR	Banqueta de Aterro
					-	-	-	69 + 10,00	SDC-01	IMPLANTAR	
	80 + 10,00	95 + 15,00			305,00	SCC-DP-01	IMPLANTAR	80 + 10,00	VPA-02	-	
	82 + 10,00	91 + 10,00			180,00	SCC-DP-01	IMPLANTAR	82 + 10,00	VPC-03	-	Banqueta de Corte
					-	-	-	91 + 10,00	VPC-03	-	
	83 + 10,00	88 + 10,00			100,00	SCC-DP-01	IMPLANTAR	83 + 10,00	VPC-03	-	Banqueta de Corte
					-	-	-	88 + 10,00	VPC-03	-	
			88 + 10,00	94 + 10,00	120,00	SCC-DP-01	IMPLANTAR	88 + 10,00	SDC-01	IMPLANTAR	Banqueta de Aterro
	97 + 0,00	102 + 0,00			100,00	SCC-DP-01	IMPLANTAR	97 + 0,00	VPA-02	-	
					-	-	-	102 + 0,00	VPA-02	-	
	103 + 0,00	113 + 15,00			215,00	SCC-DP-01	IMPLANTAR	113 + 15,00	VPC-03	-	Banqueta de Corte
	104 + 5,00	113 + 0,00			175,00	SCC-DP-01	IMPLANTAR	104 + 5,00	VPC-03	-	
					-	-	-	113 + 0,00	VPC-03	-	
	105 + 10,00	112 + 15,00			145,00	SCC-DP-01	IMPLANTAR	105 + 10,00	VPC-03	-	Banqueta de Corte
					-	-	-	112 + 15,00	VPC-03	-	

<b>PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY</b>			
IMPLANTATION E PAVIMENTATION DE TRECHO RODOVIÁRIO			
CONSULTORA: Projemax Engenharia e Consultoria Ltda.			
Projemax	Estado:	Projeto de Engenharia e Consultoria Ltda.	
Trabalho 03	Assimilado:	Projeto de Engenharia e Consultoria Ltda.	
Água Pretinha - Santa Lúcia - Canela	Estimado:	Projeto de Engenharia e Consultoria Ltda.	
Estimado: 7 A R\$	Valor:	Projeto de Engenharia e Consultoria Ltda.	
PROJETO DE DRENAGEM		FOLHA Nº	
NOTA DE SERVIÇO - BANQUETA		JUNDEIS	
PROJETO		DRE 08	

Nº	LOCALIZAÇÃO (ESTACA)				EXTENSÃO TOTAL (m)	PROJETO TIPO	TIPO DE SERVIÇO	DISPOSITIVO DE SAÍDA		TIPO DE SERVIÇO	OBSERVAÇÕES
	LADO ESQUERDO		LADO DIREITO					ESTACA	PROJETO TIPO		
	INÍCIO	FINAL	INÍCIO	FINAL							
			115 + 10,00	117 + 0,00	30,00	SCC-DP-01	IMPLANTAR	115 + 10,00	VPC-03	-	
			124 + 10,00	134 + 15,00	205,00	SCC-DP-01	IMPLANTAR	124 + 10,00	VP-A-02	-	
					-	-	-	129 + 10,00	CAIXA	-	
					-	-	-	134 + 15,00	VP-A-02	-	Banqueta de Corte
			131 + 0,00	134 + 10,00	70,00	SCC-DP-01	IMPLANTAR	131 + 0,00	VPC-03	-	
					-	-	-	134 + 10,00	VPC-03	-	
			137 + 5,00	148 + 10,00	225,00	SCC-DP-01	IMPLANTAR	144 + 0,00	CAIXA	-	
			138 + 10,00	142 + 0,00	70,00	SCC-DP-01	IMPLANTAR	138 + 10,00	VPC-03	-	Banqueta de Corte
					-	-	-	142 + 0,00	VPC-03	-	
			144 + 10,00	147 + 10,00	60,00	SCC-DP-01	IMPLANTAR	144 + 10,00	VPC-03	-	Banqueta de Corte
					-	-	-	147 + 10,00	VPC-03	-	
			157 + 0,00	159 + 5,00	45,00	SCC-DP-01	IMPLANTAR	157 + 0,00	VP-A-02	-	
			168 + 0,00	179 + 0,00	220,00	SCC-DP-01	IMPLANTAR	179 + 0,00	SDC-01	IMPLANTAR	
	169 + 10,00	177 + 5,00			155,00	SCC-DP-01	IMPLANTAR	177 + 5,00	SDC-01	IMPLANTAR	
			170 + 10,00	176 + 0,00	110,00	SCC-DP-01	IMPLANTAR	170 + 10,00	VPC-03	-	Banqueta de Corte
					-	-	-	176 + 0,00	VPC-03	-	
			184 + 10,00	189 + 0,00	90,00	SCC-DP-01	IMPLANTAR	184 + 10,00	VPC-03	-	
	196 + 10,00	199 + 0,00			50,00	SCC-DP-01	IMPLANTAR	196 + 10,00	VP-A-02	-	
			207 + 15,00	269 + 10,00	1235,00	SCC-DP-01	IMPLANTAR	207 + 15,00	VP-A-02	-	Continuação na Interseção
					-	-	-	215 + 15,00	CAIXA	-	
					-	-	-	227 + 10,00	CAIXA	-	
					-	-	-	238 + 10,00	CAIXA	-	
					-	-	-	248 + 10,00	CAIXA	-	
					-	-	-	262 + 0,00	CAIXA	-	
			211 + 0,00	214 + 10,00	70,00	SCC-DP-01	IMPLANTAR	211 + 0,00	VPC-03	-	Banqueta de Corte
					-	-	-	214 + 10,00	VPC-03	-	
	221 + 10,00	225 + 10,00			80,00	SCC-DP-01	IMPLANTAR	221 + 10,00	SDC-01	IMPLANTAR	
			222 + 5,00	224 + 15,00	50,00	SCC-DP-01	IMPLANTAR	222 + 5,00	VPC-03	-	Banqueta de Corte
					-	-	-	224 + 15,00	VPC-03	-	
			230 + 10,00	233 + 0,00	50,00	SCC-DP-01	IMPLANTAR	230 + 10,00	VPC-03	-	Banqueta de Corte
					-	-	-	233 + 0,00	VPC-03	-	
	234 + 0,00	240 + 0,00			120,00	SCC-DP-01	IMPLANTAR	240 + 0,00	SDC-01	IMPLANTAR	Banqueta de Aterro
	251 + 5,00	257 + 0,00			115,00	SCC-DP-01	IMPLANTAR	257 + 0,00	SDC-01	IMPLANTAR	
			251 + 10,00	266 + 10,00	300,00	SCC-DP-01	IMPLANTAR	251 + 10,00	VPC-03	-	Banqueta de Corte
					-	-	-	262 + 0,00	DSC-01	-	
					-	-	-	266 + 10,00	VPC-03	-	

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

CONSULTORIA: Projemax Engenharia e Consultoria Ltda.

Projemax

Projemax Engenharia e Consultoria Ltda.

Projeto de Engenharia - Santa Lúcia - Caxoeira

Projeto de Engenharia - Santa Lúcia - Caxoeira

Projeto de Engenharia - Santa Lúcia - Caxoeira

Projeto de Engenharia - Santa Lúcia - Caxoeira

Projeto de Engenharia - Santa Lúcia - Caxoeira

Projeto de Engenharia - Santa Lúcia - Caxoeira

Projeto de Engenharia - Santa Lúcia - Caxoeira

Projeto de Engenharia - Santa Lúcia - Caxoeira

Projeto de Engenharia - Santa Lúcia - Caxoeira

N°	LOCALIZAÇÃO (ESTACA)				EXTENSÃO TOTAL (m)	PROJETO TIPO	TIPO DE SERVIÇO	DISPOSITIVO DE SAÍDA		TIPO DE SERVIÇO	OBSERVAÇÕES
	LADO ESQUERDO		LADO DIREITO					ESTACA	PROJETO TIPO		
	INÍCIO	FINAL	INÍCIO	FINAL							
			254 + 0,00	257 + 0,00	60,00	SCC-DP-01	IMPLANTAR	254 + 0,00	VPC-03	-	Banqueta de Corte
			262 + 10,00	264 + 15,00	45,00	SCC-DP-01	IMPLANTAR	257 + 0,00	VPC-03	-	Banqueta de Corte
	265 + 15,00	267 + 10,00			35,00	SCC-DP-01	IMPLANTAR	262 + 10,00	VPC-03	-	Banqueta de Corte
	277 + 6,00	282 + 10,00			104,00	SCC-DP-01	IMPLANTAR	264 + 15,00	VPC-03	-	Banqueta de Corte
	277 + 6,00	281 + 10,00			84,00	SCC-DP-01	IMPLANTAR	267 + 10,00	SDC-01	IMPLANTAR	Banqueta de Aterro
			290 + 15,00	299 + 5,00	170,00	SCC-DP-01	IMPLANTAR	282 + 10,00	VPA-02	-	Continuação na Interseção
			301 + 10,00	318 + 0,00	330,00	SCC-DP-01	IMPLANTAR	281 + 10,00	VPC-03	-	Banqueta de Corte/Continuação na Interseção
					-	-	-	289 + 5,00	VPA-02	-	
					-	-	-	301 + 10,00	VPA-02	-	
					-	-	-	315 + 0,00	CAIXA	-	
					-	-	-	318 + 0,00	VPA-02	-	
	311 + 15,00	315 + 10,00			75,00	SCC-DP-01	IMPLANTAR	315 + 0,00	SDC-01	IMPLANTAR	Banqueta de Corte
					50,00	SCC-DP-01	IMPLANTAR	311 + 15,00	VPC-03	-	
					-	-	-	314 + 5,00	VPC-03	-	
					140,00	SCC-DP-01	IMPLANTAR	340 + 0,00	VPA-02	-	
					80,00	SCC-DP-01	IMPLANTAR	340 + 0,00	VPC-03	-	Banqueta de Corte
					-	-	-	335 + 0,00	VPC-03	-	
					285,00	SCC-DP-01	IMPLANTAR	339 + 0,00	VPC-03	-	
					-	-	-	358 + 10,00	CAIXA	-	
					-	-	-	363 + 0,00	VPA-02	-	
					170,00	SCC-DP-01	IMPLANTAR	349 + 0,00	VPC-03	-	Banqueta de Corte
					-	-	-	349 + 0,00	VPC-03	-	
					65,00	SCC-DP-01	IMPLANTAR	357 + 10,00	VPC-03	-	
					-	-	-	359 + 5,00	VPC-03	-	Banqueta de Corte
					-	-	-	362 + 10,00	VPC-03	-	
Interseção Trecho 03 com Trecho 04											
	100 + 0,00	101 + 0,00			20,00	SCC-DP-01	IMPLANTAR	100 + 0,00	SCC-DP-01	-	Ramo 100/Continuação da Rodovia
					134,00	SCC-DP-01	IMPLANTAR	200 + 0,00	SDC-01	IMPLANTAR	Ramo 200/Continuação da Rodovia
					110,00	SCC-DP-01	IMPLANTAR	205 10,00	VPC-03	-	Ramo 200/Banqueta de Corte
					55,00	SCC-DP-01	IMPLANTAR	200 + 10,00	VPC-03	-	Ramo 200/Banqueta de Corte
					-	-	-	203 + 5,00	VPC-03	-	
					55,00	SCC-DP-01	IMPLANTAR	303 + 15,00	VPA-02	-	Ramo 300/Continuação da Rodovia
					40,00	SCC-DP-01	IMPLANTAR	303 + 0,00	VPC-03	-	Ramo 300/Banqueta de Corte/Continuação da Rodovia
					30,00	SCC-DP-01	IMPLANTAR	300 + 0,00	VPC-03	-	Ramo 300/Banqueta de Corte
Interseção Trecho 03 com Trecho 02											
	104 + 10,00	111 + 15,00			145,00	SCC-DP-01	IMPLANTAR	111 + 15,00	SCC-DP-01	-	Ramo 100/Continuação da Rodovia
					135,00	SCC-DP-01	IMPLANTAR	105 + 0,00	VPC-03	-	Ramo 100/Continuação da Rodovia/Banqueta de Corte
					36,00	SCC-DP-01	IMPLANTAR	207 + 5,00	VPA-02	-	Ramo 200

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTATION E PAVIMENTATION DE TRECHO RODOVIÁRIO  
 CONSULTORIA: Projemax Engenharia e Consultoria Ltda.  
 Avenida 14 de Abril - Santa Lúcia - Canela  
 CEP: 95.000-000 - Fone: (51) 3633.1000  
 E-mail: contato@projemax.com.br  
 Data: 14/05/2018  
 Folha nº 10  
 PROJETO DE DRENAGEM  
 NOTA DE SERVIÇO - BANQUETA  
 VBS: \_\_\_\_\_  
 PROPOSTA: \_\_\_\_\_







N°	LOCALIZAÇÃO (ESTACA)				EXTENSÃO TOTAL (m)	PROJETO TIPO	TIPO DE SERVIÇO	DISPOSITIVO DE ENTRADA		TIPO DE SERVIÇO	DISSIP.	OBSERVAÇÕES
	LADO ESQUERDO		LADO DIREITO					ESTACA	PROJETO TIPO			
	INÍCIO	FINAL	INÍCIO	FINAL								
			3 + 5,00	6 + 15,00	70,00	MFS-DP-01	IMPLANTAR	3 + 5,00	EDA-01	IMPLANTAR	DSA-01	
					-	-	-	4 + 0,00	EDA-01	IMPLANTAR	DSA-03	
			13 + 5,00	19 + 15,00	130,00	MFS-DP-01	IMPLANTAR	14 + 10,00	EDA-01	IMPLANTAR	DEB-01	
					-	-	-	17 + 0,00	EDA-01	IMPLANTAR	DEB-01	
					-	-	-	19 + 15,00	EDA-01	IMPLANTAR	DEB-01	
			26 + 5,00	41 + 0,00	295,00	MFS-DP-01	IMPLANTAR	26 + 5,00	EDA-01	IMPLANTAR	DSA-01	
					-	-	-	27 + 10,00	EDA-01	IMPLANTAR	DSA-01	
					-	-	-	36 + 0,00	EDA-02	IMPLANTAR	DSA-03	
					37,00	MFC-05	IMPLANTAR	-	-	-	-	Acesso
			42 + 5,00	45 + 10,00	65,00	MFS-DP-01	IMPLANTAR	44 + 10,00	EDA-02	IMPLANTAR	DSA-03	
					37,00	MFC-05	IMPLANTAR	-	-	-	-	Acesso
			58 + 10,00	62 + 15,00	85,00	MFS-DP-01	IMPLANTAR	58 + 10,00	EDA-01	IMPLANTAR	DSA-03	
			67 + 10,00	80 + 10,00	260,00	MFS-DP-01	IMPLANTAR	70 + 15,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	75 + 5,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	79 + 10,00	EDA-02	IMPLANTAR	DSA-03	
					50,00	MFS-DP-01	IMPLANTAR	79 + 10,00	EDA-02	IMPLANTAR	DSA-03	
					395,00	MFS-DP-01	IMPLANTAR	87 + 15,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	92 + 5,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	96 + 10,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	104 + 5,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	107 + 10,00	EDA-01	IMPLANTAR	DSA-03	
					90,00	MFS-DP-01	IMPLANTAR	113 + 5,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	115 + 10,00	EDA-01	IMPLANTAR	DEB-01	
					37,00	MFC-05	IMPLANTAR	-	-	-	-	Acesso
			113 + 7,00	113 + 13,00	20,00	MFS-DP-01	IMPLANTAR	116 + 0,00	EDA-01	IMPLANTAR	DSA-03	
			115 + 0,00	116 + 0,00	75,00	MFS-DP-01	IMPLANTAR	117 + 0,00	EDA-01	IMPLANTAR	DSA-01	
					-	-	-	119 + 0,00	EDA-01	IMPLANTAR	DSA-01	
					115,00	MFS-DP-01	IMPLANTAR	119 + 5,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	122 + 10,00	EDA-01	IMPLANTAR	DSA-03	
					36,00	MFC-05	IMPLANTAR	-	-	-	-	Acesso
			128 + 17,00	129 + 5,00	67,00	MFS-DP-01	IMPLANTAR	135 + 5,00	EDA-01	IMPLANTAR	DSA-03	
			133 + 10,00	136 + 17,00	-	-	-	136 + 17,00	EDA-01	IMPLANTAR	DSA-03	
					36,00	MFC-05	IMPLANTAR	-	-	-	-	Acesso
			136 + 17,00	137 + 3,00	47,00	MFS-DP-01	IMPLANTAR	138 + 5,00	EDA-01	IMPLANTAR	DSA-03	
			137 + 3,00	139 + 10,00	-	-	-	139 + 10,00	EDA-01	IMPLANTAR	DSA-03	
					27,00	MFS-DP-01	IMPLANTAR	148 + 0,00	EDA-01	IMPLANTAR	DSA-03	

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

**Projemax**  
 Rua: 30 de Abril - Santa Lúcia - Caxoeira  
 CEP: 65.000-000 - Caxoeira - PE

Consultoria: Projemax Engenharia e Consultoria Ltda.  
 Elaborado: 7/4/2015

Projeto de Drenagem - Meio Fio  
 Folha nº JANG015 - DRE F3

Escala: sem escala

Data: JANG015 - DRE F3

Via: RODOVIARIA

N°	LOCALIZAÇÃO (ESTACA)				EXTENSÃO TOTAL (m)	PROJETO TIPO	TIPO DE SERVIÇO	DISPOSITIVO DE ENTRADA		TIPO DE SERVIÇO	DISSIP.	OBSERVAÇÕES
	LADO ESQUERDO		LADO DIREITO					ESTACA	PROJETO TIPO			
	INÍCIO	FINAL	INÍCIO	FINAL								
	149 + 7,00	149 + 13,00			36,00	MFC-05	IMPLANTAR	-	-	-	-	Acesso
	149 + 13,00	169 + 10,00			397,00	MFS-DP-01	IMPLANTAR	149 + 13,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	153 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	156 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	159 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	161 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	165 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	166 + 10,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	168 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	169 + 10,00	EDA-01	IMPLANTAR	DSA-03	
					36,00	MFC-05	IMPLANTAR	-	-	-	-	Acesso
	180 + 17,00	181 + 3,00		163 + 17,00	164 + 3,00			-	-	-	-	Acesso
	188 + 15,00	196 + 10,00			36,00	MFC-05	IMPLANTAR	-	-	-	-	
					155,00	MFS-DP-01	IMPLANTAR	188 + 15,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	193 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					45,00	MFS-DP-01	IMPLANTAR	189 + 0,00	EDA-01	IMPLANTAR	DSA-01	
					37,00	MFC-05	IMPLANTAR	-	-	-	-	Acesso
	199 + 0,00	207 + 0,00		189 + 0,00	160,00	MFS-DP-01	IMPLANTAR	199 + 0,00	EDA-01	IMPLANTAR	DSA-01	
					-	-	-	202 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	204 + 10,00	EDA-01	IMPLANTAR	DSA-03	
					100,00	MFS-DP-01	IMPLANTAR	202 + 15,00	EDA-01	IMPLANTAR	DSA-03	
	218 + 10,00	221 + 10,00		202 + 15,00	60,00	MFS-DP-01	IMPLANTAR	218 + 10,00	EDA-01	IMPLANTAR	DSA-03	
	225 + 10,00	234 + 0,00		170,00	170,00	MFS-DP-01	IMPLANTAR	225 + 10,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	230 + 0,00	EDA-01	IMPLANTAR	DSA-03	
	245 + 0,00	251 + 5,00		125,00	125,00	MFS-DP-01	IMPLANTAR	248 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	251 + 5,00	EDA-01	IMPLANTAR	DSA-03	
	257 + 0,00	269 + 9,00		249,00	249,00	MFS-DP-01	IMPLANTAR	260 + 0,00	EDA-01	IMPLANTAR	DSA-03	Continuação na Intersessão
					-	-	-	265 + 0,00	EDA-01	IMPLANTAR	DSA-03	
	282 + 10,00	297 + 10,00		300,00	300,00	MFS-DP-01	IMPLANTAR	287 + 10,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	291 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	294 + 0,00	EDA-01	IMPLANTAR	DSA-03	
					-	-	-	297 + 10,00	EDA-02	IMPLANTAR	DSA-03	
					70,00	MFS-DP-01	IMPLANTAR	286 + 15,00	EDA-01	IMPLANTAR	DSA-01	
					45,00	MFS-DP-01	IMPLANTAR	300 + 0,00	EDA-02	IMPLANTAR	DSA-01	
	302 + 10,00	305 + 10,00		60,00	60,00	MFS-DP-01	IMPLANTAR	302 + 10,00	EDA-01	IMPLANTAR	DSA-03	
	311 + 0,00	315 + 15,00		95,00	95,00	MFS-DP-01	IMPLANTAR	315 + 15,00	EDA-01	IMPLANTAR	DSA-03	
					165,00	MFS-DP-01	IMPLANTAR	321 + 0,00	EDA-01	IMPLANTAR	DSA-01	

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTATION E PAVIMENTATION DE TRECHO RODOVIÁRIO  
 CONSULTORA: Projemax Engenharia e Consultoria Ltda.  
 Projeto de Engenharia e Consultoria Ltda.  
 Avenida 03  
 Apto 100 - Santa Lúcia - Canela  
 Entulho: 74 Km  
 Estado: RS  
 sem escala  
 Data: 10/01/2023  
 Folha nº DRE 74  
 PROJETO DE DRENAGEM  
 NOTA DE SERVIÇO - MEIO FIO  
 VBS: \_\_\_\_\_  
 PROJEÇÃO: \_\_\_\_\_

N°	LOCALIZAÇÃO (ESTACA)		EXTENSÃO TOTAL (m)	PROJETO TIPO	TIPO DE SERVIÇO	DISPOSITIVO DE ENTRADA		TIPO DE SERVIÇO	DISSIP.	OBSERVAÇÕES
	LADO DIREITO					ESTACA	PROJETO TIPO			
	INÍCIO	FINAL								
	324 + 10,00	332 + 15,00	165,00	MFS-DP-01	IMPLANTAR	327 + 10,00	EDA-01	IMPLANTAR	DSA-03	
						329 + 10,00	EDA-01	IMPLANTAR	DSA-03	
						332 + 15,00	EDA-01	IMPLANTAR	DSA-03	
	343 + 5,00	348 + 0,00	65,00	MFS-DP-01	IMPLANTAR	343 + 5,00	EDA-01	IMPLANTAR	DSA-01	
			95,00	MFS-DP-01	IMPLANTAR	345 + 0,00	EDA-01	IMPLANTAR	DSA-01	
	352 + 0,00	365 + 0,00	260,00	MFS-DP-01	IMPLANTAR	356 + 0,00	EDA-01	IMPLANTAR	DSA-01	
						357 + 10,00	EDA-01	IMPLANTAR	DSA-01	
						359 + 0,00	EDA-01	IMPLANTAR	DSA-01	
						360 + 10,00	EDA-01	IMPLANTAR	DSA-03	
						363 + 0,00	EDA-02	IMPLANTAR	DSA-03	
			120,00	MFS-DP-01	IMPLANTAR	365 + 0,00	EDA-01	IMPLANTAR	DSA-01	
						368 + 0,00	EDA-01	IMPLANTAR	DSA-03	
	371 + 0,00	373 + 0,00	40,00	MFS-DP-01	IMPLANTAR	371 + 0,00	EDA-01	IMPLANTAR	DSA-03	
Interseção Trecho 03 com Trecho 04										
	102 + 0,00	104 + 10,00	50,00	MFS-DP-01	IMPLANTAR	102 + 0,00	EDA-01	IMPLANTAR	DSA-03	Ramo 100
			82,00	MFS-DP-01	IMPLANTAR	302 + 15,00	EDA-01	IMPLANTAR	DSA-03	Ramo 300
	400 + 0,00	404 + 5,00	85,00	MFC-05	IMPLANTAR	-	-	-	-	Ramo 400
	201 + 5,00	201 + 15,00	62,00	MFC-05	IMPLANTAR	-	-	-	-	Ilha 01
	204 + 15,00	205 + 15,00	56,00	MFC-05	IMPLANTAR	-	-	-	-	Ilha 02
			52,00	MFC-05	IMPLANTAR	-	-	-	-	Ilha 03
Interseção Trecho 03 com Trecho 02										
	100 + 0,00	104 + 10,00	52,00	MFC-05	IMPLANTAR	104 + 10,00	EDA-01	IMPLANTAR	DSA-03	Ramo 100/Contr. Rodovia
	200 + 0,00	207 + 5,00	145,00	MFS-DP-01	IMPLANTAR	207 + 5,00	EDA-01	IMPLANTAR	DSA-03	Ramo 200
	300 + 0,00	306 + 0,00	120,00	MFS-DP-01	IMPLANTAR	306 + 0,00	EDA-01	IMPLANTAR	DSA-03	Ramo 300
	400 + 0,00	404 + 14,00	94,00	MFC-05	IMPLANTAR	-	-	-	-	Ramo 400
			83,00	MFC-05	IMPLANTAR	-	-	-	-	Ilha 01
			70,00	MFC-05	IMPLANTAR	-	-	-	-	Ilha 02
			33,00	MFC-05	IMPLANTAR	-	-	-	-	Ilha 03
Quantidade Total de Implantação de Entrada tipo EDA-01: 77,00 unidades										
Quantidade Total de Implantação de Entrada tipo EDA-02: 7,00 unidades										
Quantidade Parcial de Implantação de Dissipador DEB-01: 5,00 unidades										
Extensão Total de Implantação de Meio Fio tipo MFS-DP-01: 5.129,00 metros										
Extensão Total de Implantação de Meio Fio tipo MFC-05: 915,00 metros										

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO  
 CONSULTORIA: Projemax Engenharia e Consultoria Ltda.  
 Estação: \_\_\_\_\_  
 Tipo de Obra: \_\_\_\_\_  
 Água Potável - Santa Lúcia - Canela  
 Estimado: 7,4 Km  
 Data: \_\_\_\_\_  
 FOLHA Nº \_\_\_\_\_  
 JUNDEIS DE 19 \_\_\_\_\_  
 VICE: \_\_\_\_\_  
 PROJETISTA: \_\_\_\_\_

N°	LOCALIZAÇÃO (ESTACA)	LADO ESQUERDO				LADO DIREITO				OBSERVAÇÕES		
		EXTENSÃO (m)	PROJETO TIPO	TIPO DE SERVIÇO	CONEXÕES		EXTENSÃO (m)	PROJETO TIPO	TIPO DE SERVIÇO		CONEXÕES	
					ENTRADA	SAIDA					ENTRADA	SAIDA
3	3 + 5,00					5,00	DSA-01	IMPLANTAR	EDA-01	DEB-01		
4	4 + 0,00					2,00	DSA-03	IMPLANTAR	EDA-01	BUEFO		
26	26 + 5,00	1,50	DSA-01	IMPLANTAR	EDA-01					VPA-02		
27	27 + 10,00	2,00	DSA-01	IMPLANTAR	EDA-01					VPA-02		
33	33 + 10,00	3,50	DSA-03	IMPLANTAR	BSTC Ø 0,80					DEB-03		
36	36 + 0,00	4,00	DSA-03	IMPLANTAR	EDA-02					DEB-01		
43	43 + 0,00					6,00	DSC-01	IMPLANTAR	VPC-03	CAIXA		
43	43 + 0,00	6,00	DSA-03	IMPLANTAR	BSTC Ø 0,80					DEB-03		
44	44 + 10,00	9,00	DSA-03	IMPLANTAR	EDA-02					DEB-01		
58	58 + 10,00	24,00	DSA-03	IMPLANTAR	EDA-01					DEB-01		
59	59 + 0,00					2,00	DSC-01	IMPLANTAR	VPC-03	CAIXA		
59	59 + 0,00	21,00	DSA-03	IMPLANTAR	BSTC Ø 0,80					DEB-03		
70	70 + 15,00	16,50	DSA-03	IMPLANTAR	EDA-01					DEB-01		
75	75 + 5,00	10,00	DSA-03	IMPLANTAR	EDA-01					DEB-01		
79	79 + 10,00	8,50	DSA-03	IMPLANTAR	EDA-02					VPA-02		
79	79 + 10,00					6,00	DSA-03	IMPLANTAR	EDA-02	VPA-02		
87	87 + 15,00					26,00	DSA-03	IMPLANTAR	EDA-01	DEB-01		
92	92 + 5,00					30,00	DSA-03	IMPLANTAR	EDA-01	DEB-01		
96	96 + 5,00					13,00	DSA-03	IMPLANTAR	BSTC Ø 1,00	DEB-04		
96	96 + 10,00					12,00	DSA-03	IMPLANTAR	EDA-01	DEB-01		
102	102 + 10,00					31,00	DSA-03	IMPLANTAR	BSTC Ø 0,80	DEB-03		
104	104 + 5,00					6,00	DSA-03	IMPLANTAR	EDA-01	DEB-01		
107	107 + 10,00					25,50	DSA-03	IMPLANTAR	EDA-01	DEB-01		
113	113 + 5,00					15,00	DSA-03	IMPLANTAR	EDA-01	DEB-01		
116	116 + 0,00	9,50	DSA-03	IMPLANTAR	EDA-01					DEB-01		
117	117 + 0,00					3,00	DSA-01	IMPLANTAR	EDA-01	VPA-02		
119	119 + 10,00	1,50	DSA-03	IMPLANTAR	BSTC Ø 0,80					DEB-03		
119	119 + 0,00					5,50	DSA-01	IMPLANTAR	EDA-01	VPA-02		
119	119 + 5,00	8,50	DSA-03	IMPLANTAR	EDA-01					DEB-01		
122	122 + 10,00	9,00	DSA-03	IMPLANTAR	EDA-01					DEB-01		
129	129 + 0,00					6,00	DSC-01	IMPLANTAR	VPC-03	CAIXA		
129	129 + 0,00	5,00	DSA-03	IMPLANTAR	BSTC Ø 0,80					DEB-03		
135	135 + 5,00	8,00	DSA-03	IMPLANTAR	EDA-01					DEB-01		
136	136 + 15,00	3,50	DSA-03	IMPLANTAR	BSTC Ø 0,80					DEB-03		
136	136 + 17,00	5,00	DSA-03	IMPLANTAR	EDA-01					DEB-01		
138	138 + 5,00	9,00	DSA-03	IMPLANTAR	EDA-01					DEB-01		
139	139 + 10,00	9,00	DSA-03	IMPLANTAR	EDA-01					DEB-01		

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

**Projemax**  
 Engenharia e Arquitetura Ltda.  
 Rua Projeção - Santa Lúcia - Caxoeira  
 Estrada: 7,4 Km

Escalado:  
 em metros

Projeto de Drenagem  
 Nota de Serviço - Descrições

Volume: \_\_\_\_\_  
 Folha nº: \_\_\_\_\_  
 Data: JUN/2016 DEB 79

N°	LOCALIZAÇÃO (ESTACA)	LADO ESQUERDO				LADO DIREITO				OBSERVAÇÕES	
		EXTENSÃO (m)	PROJETO TIPO	TIPO DE SERVIÇO	CONEXÕES ENTRADA SAÍDA	EXTENSÃO (m)	PROJETO TIPO	TIPO DE SERVIÇO	CONEXÕES ENTRADA SAÍDA		
	144 + 0,00										
	144 + 0,00	3,00	DSA-03	IMPLANTAR	BSTC Ø 0,80	10,00	DSC-01	IMPLANTAR	VPC-03	CAIXA	
	148 + 0,00	6,50	DSA-03	IMPLANTAR	EDA-01						
	153 + 0,00	7,50	DSA-03	IMPLANTAR	EDA-01						
	156 + 0,00	7,50	DSA-03	IMPLANTAR	EDA-01						
	159 + 0,00	7,00	DSA-03	IMPLANTAR	EDA-01						
	161 + 0,00	8,00	DSA-03	IMPLANTAR	EDA-01						
	165 + 0,00	7,00	DSA-03	IMPLANTAR	EDA-01						
	166 + 10,00	6,50	DSA-03	IMPLANTAR	EDA-01						
	168 + 0,00	6,50	DSA-03	IMPLANTAR	EDA-01						
	169 + 10,00	7,50	DSA-03	IMPLANTAR	EDA-01						
	188 + 15,00	6,50	DSA-03	IMPLANTAR	EDA-01						
	189 + 0,00					3,00	DSA-01	IMPLANTAR	EDA-01	VPA-02	
	193 + 0,00	5,00	DSA-03	IMPLANTAR	EDA-01						
	199 + 0,00	2,00	DSA-01	IMPLANTAR	EDA-01						
	202 + 0,00	5,50	DSA-03	IMPLANTAR	EDA-01						
	202 + 15,00					8,00	DSA-03	IMPLANTAR	EDA-01	DEB-01	
	204 + 10,00	5,50	DSA-03	IMPLANTAR	EDA-01						
	215 + 15,00					11,00	DSC-01	IMPLANTAR	VPC-03	CAIXA	
	215 + 15,00	22,00	DSA-03	IMPLANTAR	BSTC Ø 0,80						
	218 + 10,00	20,00	DSA-03	IMPLANTAR	EDA-01						
	225 + 10,00	34,00	DSA-03	IMPLANTAR	EDA-01						
	227 + 10,00					6,50	DSC-01	IMPLANTAR	VPC-03	CAIXA	
	227 + 10,00	28,00	DSA-03	IMPLANTAR	BSTC Ø 0,80						
	230 + 0,00	30,00	DSA-03	IMPLANTAR	EDA-01						
	233 + 15,00					14,00	DSC-01	IMPLANTAR	VPC-03	CAIXA	
	238 + 10,00					3,50	DSC-01	IMPLANTAR	VPC-03	CAIXA	
	248 + 10,00	30,00	DSA-03	IMPLANTAR	BSTC Ø 0,80						
	248 + 10,00					10,00	DSC-01	IMPLANTAR	VPC-03	CAIXA	
	248 + 10,00	40,00	DSA-03	IMPLANTAR	BSTC Ø 0,80						
	248 + 0,00	40,00	DSA-03	IMPLANTAR	EDA-01						
	251 + 5,00	30,00	DSA-03	IMPLANTAR	EDA-01						
	260 + 0,00	40,00	DSA-03	IMPLANTAR	EDA-01						
	262 + 0,00					28,00	DSC-01	IMPLANTAR	VPC-03	CAIXA	
	262 + 0,00	29,00	DSA-03	IMPLANTAR	BSTC Ø 0,80						
	265 + 0,00	30,00	DSA-03	IMPLANTAR	EDA-01						
	286 + 15,00					3,00	DSA-01	IMPLANTAR	EDA-01	VPA-02	

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

**Projemax**  
Rua Paulo de Tarso, 13  
Água Pretinha - Santa Lúcia - Candeias  
E-mail: [projemax@projemax.com.br](mailto:projemax@projemax.com.br)

CONSULTORIA: Projemax Engenharia e Consultoria Ltda.  
Estatuto: sem escala

PROJETO DE DRENAGEM  
NOTA DE SERVIÇO - DESCIDAS  
Data: JUN/2015  
Folha nº DRE 17

Viz: \_\_\_\_\_  
PROJETA: \_\_\_\_\_

N°	LOCALIZAÇÃO ( ESTACA )	LADO ESQUERDO				LADO DIREITO				OBSERVAÇÕES
		EXTENSÃO (m)	PROJETO TIPO	CONEXÕES		EXTENSÃO (m)	PROJETO TIPO	CONEXÕES		
				ENTRADA	SAÍDA			ENTRADA	SAÍDA	
	302 + 10,00	11,00	DSA-03	MPLANTAR	EDA-01	DEB-01				
	315 + 0,00	31,00	DSA-03	MPLANTAR	BSTC Ø 0,80	DEB-03				
	315 + 15,00	28,00	DSA-03	MPLANTAR	EDA-01	DEB-01				
	321 + 0,00						DSA-01	IMPLANTAR	EDA-01	VPA-02
	326 + 5,00						DSA-01	IMPLANTAR	EDA-01	VPA-02
	327 + 10,00	5,50	DSA-03	MPLANTAR	EDA-01	DEB-01				
	329 + 10,00	8,00	DSA-03	MPLANTAR	EDA-01	DEB-01				
	330 + 10,00	4,50	DSA-03	MPLANTAR	BSTC Ø 0,80	DEB-03				
	332 + 15,00	9,00	DSA-03	MPLANTAR	EDA-01	DEB-01				
	343 + 5,00						DSA-01	IMPLANTAR	EDA-01	VPA-02
	345 + 0,00	5,00	DSA-01	MPLANTAR	EDA-01	DEB-01				
	348 + 0,00	5,00	DSA-01	MPLANTAR	EDA-01	DEB-01				
	356 + 0,00	4,50	DSA-01	MPLANTAR	EDA-01	DEB-01				
	357 + 10,00	3,50	DSA-01	MPLANTAR	EDA-01	DEB-01				
	358 + 10,00						DSC-01	IMPLANTAR	VFC-03	CAIXA
	359 + 0,00	4,00	DSA-01	MPLANTAR	EDA-01	DEB-01				
	360 + 10,00	5,50	DSA-03	MPLANTAR	EDA-01	DEB-01				
	363 + 0,00	5,50	DSA-03	MPLANTAR	EDA-02	VPA-02				
	365 + 0,00						DSA-01	IMPLANTAR	EDA-01	VPA-02
	368 + 0,00						DSA-03	IMPLANTAR	EDA-01	DEB-01
	371 + 0,00	15,00	DSA-03	MPLANTAR	EDA-01	DEB-01				
Interseção Trecho 03 com Trecho 04										
	102 + 0,00	12,50	DSA-03	MPLANTAR	EDA-01	DEB-01				Ramo 100
	302 + 15,00	10,00	DSA-03	MPLANTAR	EDA-01	DEB-01				Ramo 200
Interseção Trecho 03 com Trecho 04										
	104 + 10,00	5,00	DSA-03	MPLANTAR	EDA-01	VPA-02				Ramo 100
	207 + 5,00	7,00	DSA-03	MPLANTAR	EDA-01	VPA-02				Ramo 200
	306 + 0,00	8,00	DSA-03	MPLANTAR	EDA-01	VPA-02				Ramo 300
		Quantidade Total de Implantação de Descida D'Água Tipo DSC-01:		117,00		metros				
		Quantidade Total de Implantação de Descida D'Água Tipo DSA-01:		50,50		metros				
		Quantidade Total de Implantação de Descida D'Água Tipo DSA-02:		999,50		metros				
		Quantidade Parcial de Implantação de Dissipador DEB-01:		55,00		unidades				
		Quantidade Total de Implantação de Descida D'Água Tipo DSA-01:		16,00		unidades				
		Quantidade Total de Implantação de Descida D'Água Tipo DSA-03:		74,00		unidades				
		Quantidade Total de Implantação de Descida D'Água Tipo DSC-01:		12,00		unidades				

PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO  
**Projemax** CONSULTORIA: Projetos Engenharia e Consultoria Ltda.  
 Avenida 03  
 Água Pretinha - Santa Lúcia - Canela  
 Estimado: 7,4 Km  
 Unidade: sem escala  
 Data: JANEIRO DE 2018  
 Folha nº DIRE 78  
 VBSZ: PROJETISTA

N°	LOCALIZAÇÃO (ESTACA)		EXTENSÃO TOTAL (m)	PROJETO TIPO	ESTACA	ENTRADA	SAÍDA	OBSERVAÇÕES	
	LADO ESQUERDO	LADO DIREITO							
	INÍCIO	FINAL							
	18 + 6,00	26 + 5,00	159,00	DPS-01	18 + 6,00	CAIXA	BUEIRO		
			-	-	26 + 5,00	BSD-01	-		
			170,00	DPS-01	37 + 10,00	BSD-01	-		
			-	-	43 + 0,00	CAIXA	BUEIRO		
			427,00	DPS-01	59 + 0,00	CAIXA	BUEIRO		
			430,00	DPS-01	80 + 10,00	BSD-01	-		
			-	-	96 + 5,00	CAIXA	BUEIRO		
			-	-	102 + 0,00	BSD-01	-		
			215,00	DPS-01	113 + 15,00	BSD-01	-		
			205,00	DPS-01	124 + 10,00	BSD-01	-		
			-	-	129 + 10,00	CAIXA	BUEIRO		
			-	-	134 + 15,00	BSD-01	-		
			225,00	DPS-01	144 + 0,00	CAIXA	BUEIRO		
			190,00	DPS-01	177 + 10,00	BSD-01	-		
			90,00	DPS-01	184 + 10,00	BSD-01	-		
			1.235,00	DPS-01	207 + 15,00	BSD-01	-	Continuação na Interseção	
			-	-	215 + 15,00	CAIXA	BUEIRO		
			-	-	227 + 10,00	CAIXA	BUEIRO		
			-	-	238 + 10,00	CAIXA	BUEIRO		
			-	-	248 + 10,00	CAIXA	BUEIRO		
			-	-	262 + 0,00	CAIXA	BUEIRO		
			104,00	DPS-01	282 + 10,00	BSD-01	-	Continuação na Interseção	
			65,00	DPS-01	299 + 5,00	BSD-01	-		
			330,00	DPS-01	301 + 10,00	BSD-01	-		
			-	-	315 + 0,00	CAIXA	BUEIRO		
			-	-	318 + 0,00	BSD-01	-		
			140,00	DPS-01	340 + 0,00	BSD-01	-		
			285,00	DPS-01	358 + 10,00	CAIXA	BUEIRO		
			-	-	363 + 0,00	BSD-01	-		
			Interseção Trecho 03 com Trecho 04						
			134,00	DPS-01	200 + 0,00	BSD-01	-	Ramo 200/Continuação da Rodovia	
			75,00	DPS-01	303 + 15,00	BSD-01	-	Ramo 300	
			Interseção Trecho 03 com Trecho 02						
			145,00	DPS-01	104 + 10,00	BSD-01	-	Ramo 100	
			36,00	DPS-01	207 + 5,00	BSD-01	-	Ramo 200	
			28,00	DPS-01	306 + 0,00	BSD-01	-	Ramo 300	
			Quantidade Total de Implantação de Dreno Profundo Tipo DPS-01: 4.688,00 metros						
			Quantidade Total de Implantação de BSD-01: 21,00 unidades						

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTATION E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO  
 CONSULTORIA: Projemax Engenharia e Consultoria Ltda.  
 Avenida 15 de Novembro - Santa Lúcia - Caxoeira  
 CEP: 65.000-000 - Maranhão - Brasil  
 Telefone: (98) 3333-1111  
 E-mail: contato@projemax.com.br  
 PROJETO DE DRENAGEM  
 NOTA DE SERVIÇO - DRENO  
 DATA: JUNHO/15 DRE 79  
 VIGÊNCIA: 12/06/2015 - 30/06/2015  
 RESPONSÁVEL: \_\_\_\_\_





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## *4.8 – NOTAS DE SERVIÇO DE SINALIZAÇÃO E OBRAS COMPLEMENTARES*

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LADO ESQUERDO										LADO DIREITO												
LOCAL ESTACA	SINAL DE PLACA		ÁREA (m <sup>2</sup> )	M	R	V	S	I	RM	OBSERVAÇÕES	LOCAL ESTACA	SINAL DE PLACA		ÁREA (m <sup>2</sup> )	M	R	V	S	I	RM	OBSERVAÇÕES	
	CÓDIGO	DIMENSÃO (m)										CÓDIGO	DIMENSÃO (m)									
7 + 0,00	A-1a	0,60 x 0,60	0,36							X	0 + 15,00	A-4b	0,60 x 0,60	0,36							X	
11 + 13,00	S-14	0,50 x 0,80	0,40							X	3 + 5,00	R-19-40	0,75	0,44							X	
14 + 0,00	A-4b	0,60 x 0,60	0,36							X	6 + 15,00	A-2a	0,60 x 0,60	0,36							X	
18 + 0,00	R-7	0,75	0,44							X	10 + 0,00	R-7	0,75	0,44							X	
30 + 0,00	A-2a	0,60 x 0,60	0,36							X	19 + 13,00	S-14	0,50 x 0,80	0,40							X	
43 + 0,00	R-7	0,75	0,44							X	22 + 0,00	A-2b	0,60 x 0,60	0,36							X	
56 + 10,00	Indicativa-05	2,00 x 1,00	2,00							X	35 + 0,00	R-7	0,75	0,44							X	
59 + 0,00	A-2a	0,60 x 0,60	0,36							X	40 + 0,00	Indicativa-01	2,00 x 1,00	2,00							X	
63 + 10,00	A-1b	0,60 x 0,60	0,36							X	57 + 10,00	A-3a	0,60 x 0,60	0,36							X	
69 + 0,00	A-2a	0,60 x 0,60	0,36							X	61 + 12,00	A-2b	0,60 x 0,60	0,36							X	
82 + 3,00	A-3b	0,60 x 0,60	0,36							X	64 + 0,00	R-7	0,75	0,44							X	
86 + 0,00	R-7	0,75	0,44							X	67 + 0,00	A-1a	0,60 x 0,60	0,36							X	
91 + 0,00	A-1b	0,60 x 0,60	0,36							X	77 + 0,00	A-1a	0,60 x 0,60	0,36							X	
111 + 0,00	R-7	0,75	0,44							X	89 + 0,00	R-7	0,75	0,44							X	
134 + 0,00	A-2a	0,60 x 0,60	0,36							X	111 + 0,00	Educativa-01	2,00 x 1,00	2,00							X	
136 + 10,00	R-7	0,75	0,44							X	114 + 0,00	R-7	0,75	0,44							X	
186 + 0,00	R-7	0,75	0,44							X	126 + 10,00	A-2b	0,60 x 0,60	0,36							X	
211 + 0,00	R-7	0,75	0,44							X	146 + 10,00	R-7	0,75	0,44							X	
236 + 0,00	R-7	0,75	0,44							X	172 + 0,00	R-7	0,75	0,44							X	
247 + 0,00	A-1a	0,60 x 0,60	0,36							X	198 + 0,00	R-7	0,75	0,44							X	
253 + 0,00	A-1b	0,60 x 0,60	0,36							X	223 + 0,00	R-7	0,75	0,44							X	
258 + 0,00	A-3a	0,60 x 0,60	0,36							X	235 + 0,00	A-3b	0,60 x 0,60	0,36							X	
261 + 0,00	R-7	0,75	0,44							X	244 + 5,00	A-1a	0,60 x 0,60	0,36							X	
283 + 10,00	Indicativa-10	2,00 x 1,00	2,00							X	247 + 0,00	R-7	0,75	0,44							X	
286 + 0,00	R-7	0,75	0,44							X	251 + 0,00	A-1b	0,60 x 0,60	0,36							X	
303 + 0,00	Educativa-02	2,00 x 1,00	2,00							X	262 + 0,00	Indicativa-06	2,00 x 1,00	2,00							X	
311 + 0,00	R-7	0,75	0,44							X	280 + 0,00	R-7	0,75	0,44							X	
318 + 0,00	A-1b	0,60 x 0,60	0,36							X	304 + 10,00	R-7	0,75	0,44							X	
332 + 10,00	A-1b	0,60 x 0,60	0,36							X	307 + 0,00	A-1a	0,60 x 0,60	0,36							X	
336 + 10,00	R-7	0,75	0,44							X	323 + 10,00	A-4a	0,60 x 0,60	0,36							X	
339 + 0,00	A-4a	0,60 x 0,60	0,36							X	330 + 0,00	A-1b	0,60 x 0,60	0,36							X	
349 + 10,00	A-1b	0,60 x 0,60	0,36							X	333 + 0,00	R-7	0,75	0,44							X	
364 + 0,00	R-7	0,75	0,44							X	340 + 0,00	A-1a	0,60 x 0,60	0,36							X	
368 + 0,00	R-19-40	0,75	0,44							X	358 + 0,00	R-7	0,75	0,44							X	
SUBTOTAL (m <sup>2</sup> )										18,32	SUBTOTAL (m <sup>2</sup> )										18,40	

TOTAL (m<sup>2</sup>) 36,72

NOTA  
M - MANEIR  
RV - REMOVER  
S - SUBSTITUIR  
I - IMPLANTAR

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTACAO E PAVIMENTACAO DE TRECHO RODOVIARIO  
 CONSULTORIA: Projemax Engenharia e Consultoria Ltda.  
 Projemax  
 Rua: 303 - Agua Pretinha / Santa Lucia - Canela  
 Fone: (51) 3631-1111  
 E-mail: contato@projemax.com.br  
 Data: 11/07/2016  
 Folha nº: 01 de 02  
 Vício: 25/07/2016

LADO ESQUERDO										LADO DIREITO												
LOCAL ESTACA	SINAL DE PLACA		ÁREA (m²)	M	R	V	S	I	R	OBSERVAÇÕES	LOCAL ESTACA	SINAL DE PLACA		ÁREA (m²)	M	R	V	S	I	R	OBSERVAÇÕES	
	CÓDIGO	DIMENSÃO (m)										CÓDIGO	DIMENSÃO (m)									
INTERSEÇÃO TRECHO 3 COM TRECHO 4																						
103 + 16,00	R-1	L=0,35	0,59								102 + 4,00	Indicativa-02	2,00 x 1,00	2,00								
201 + 16,00	MO	0,30 x 0,90	0,27								104 + 15,00	MO	0,30 x 0,90	0,27								
201 + 16,00	R-24b	Ø 0,75	0,44								104 + 15,00	R-24b	Ø 0,75	0,44								
204 + 9,00	Indicativa-03	2,00 x 1,00	2,00								202 + 17,00	R-1	L=0,35	0,59								
301 + 8,00	MO	0,30 x 0,90	0,27								302 + 11,00	R-1	L=0,35	0,59								
301 + 8,00	R-24b	Ø 0,75	0,44																			
304 + 10,00	Indicativa-04	2,00 x 1,00	2,00																			
INTERSEÇÃO TRECHO 3 COM TRECHO 2																						
105 + 8,00	R-1	L=0,35	0,59								103 + 15,00	Indicativa-07	2,00 x 1,00	2,00								
204 + 0,00	Indicativa-09	2,00 x 1,00	2,00								106 + 15,00	MO	0,30 x 0,90	0,27								
207 + 9,00	R-1	L=0,35	0,59								106 + 15,00	R-24b	Ø 0,75	0,44								
303 + 8,00	R-1	L=0,35	0,59								208 + 0,00	MO	0,30 x 0,90	0,27								
											208 + 0,00	R-24b	Ø 0,75	0,44								
											301 + 7,00	Indicativa-08	2,00 x 1,00	2,00								
											304 + 18,00	MO	0,30 x 0,90	0,27								
											304 + 18,00	R-24b	Ø 0,75	0,44								
											SUBTOTAL (m²)		10,02									
										TOTAL (m²) 19,80												

NOTA  
M - MANTER  
RV - REMOVER  
S - SUBSTITUIR  
I - IMPLANTAR

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTATION AND PAVEMENTATION OF TRECHO RODOVÁRIO  
 CONSULTORA: Projemax Engenharia e Consultoria Ltda.  
 Projemax  
 Avenida: 74 Km  
 Estado: em estado  
 Data: 14/07/2015  
 Folha nº 01/03  
 Nota de Serviço  
 Situação: Horizontal  
 Vício: RESERVA

EIXO							OBSERVAÇÕES
Localização (Estaca)		Comprimento (m)	Quantidade (m³)	TIPO			
Início	Final						
0 + 0,00	46 + 0,35	920,35	184,07	LFO-3			
46 + 0,35	53 + 12,19	151,84		INTERSEÇÃO	COM TRECHO 4		
53 + 12,19	136 + 10,00	1.657,81	331,56	LFO-3			
136 + 10,00	146 + 10,00	200,00	10,00	LFO-2			CADENÇA 1:1 LE
146 + 10,00	269 + 9,38	2.459,38	491,88	LFO-3			
269 + 9,38	277 + 6,06	156,68		INTERSEÇÃO	COM TRECHO 2		
277 + 6,06	373 + 0,00	1.913,94	382,79	LFO-3			
TOTAL (m³)			1.400,30				

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**

IMPLANTATION E PAVIMENTATION DE TRECHO RODOVIÁRIO

**Projemax** CONSULTORA: Projetos Engenharia e Consultoria Ltda.

Trabalho: 03  
Assimilador: Ricardo Ueda - Concilio  
Estimativa: 7,4 Km

Estimativa: sem escala

Nota de Serviço: Similização Horizontal - Eixo

Data: 11/07/2018

Folha nº: 014 de 014

Vício: PROJETORA: 25/07/2018

**LADO DIREITO**

Localização (Estaca)		Comprimento (m)	Quantidade (m <sup>2</sup> )	TIPO	OBSERVAÇÕES
Início	Final				
0 + 0,00	28 + 13,00	573,00	57,30	LBO	
28 + 13,00	29 + 10,00	17,00	0,85	LOO	CADÊNCIA 1:1
29 + 10,00	46 + 0,35	330,35	33,04	LBO	
46 + 0,35	53 + 12,19	151,84		INTERSEÇÃO COM TRECHO 4	
53 + 12,19	163 + 12,00	2.199,81	219,98	LBO	
163 + 12,00	164 + 13,00	21,00	1,05	LOO	CADÊNCIA 1:1
164 + 13,00	196 + 14,00	641,00	64,10	LBO	
196 + 14,00	197 + 12,00	18,00	0,90	LOO	CADÊNCIA 1:1
197 + 12,00	269 + 9,38	1.437,38	143,74	LBO	
269 + 9,38	277 + 6,06	156,68		INTERSEÇÃO COM TRECHO 2	
277 + 6,06	373 + 0,00	1.913,94	191,39	LBO	
		SUBTOTAL	712,35		

**LADO ESQUERDO**

Localização (Estaca)		Comprimento (m)	Quantidade (m <sup>2</sup> )	TIPO	OBSERVAÇÕES
Início	Final				
0 + 0,00	46 + 0,35	920,35	92,04	LBO	
46 + 0,35	53 + 12,19	151,84		INTERSEÇÃO COM TRECHO 4	
53 + 12,19	113 + 2,00	1.189,81	118,98	LBO	
113 + 2,00	114 + 1,00	19,00	0,95	LOO	CADÊNCIA 1:1
114 + 1,00	128 + 14,00	293,00	29,30	LBO	
128 + 14,00	129 + 14,00	20,00	1,00	LOO	CADÊNCIA 1:1
129 + 14,00	136 + 14,00	140,00	14,00	LBO	
136 + 14,00	137 + 19,00	25,00	1,25	LOO	CADÊNCIA 1:1
137 + 19,00	149 + 0,00	221,00	22,10	LBO	
149 + 0,00	150 + 1,00	21,00	1,05	LOO	CADÊNCIA 1:1
150 + 1,00	180 + 9,00	608,00	60,80	LBO	
180 + 9,00	181 + 11,00	22,00	1,10	LOO	CADÊNCIA 1:1
181 + 11,00	269 + 9,38	1.758,38	175,84	LBO	
269 + 9,38	277 + 6,06	156,68		INTERSEÇÃO COM TRECHO 2	
277 + 6,06	373 + 0,00	1.913,94	191,39	LBO	
		SUBTOTAL	709,80		

TOTAL (m<sup>2</sup>) 1.422,15

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**

IMPLANTATION E PAVIMENTATION DE TRECHO RODOVIÁRIO

**Projemax** CONSULTORA: Projemax Engenharia e Consultoria Ltda.

Projemax Engenharia e Consultoria Ltda.  
Rua: ...  
Bairro: ...  
Cidade: ...

Notas de Serviço  
Sinalização Horizontal - Barras

Proj. nº: ...  
Data: JUL/2015  
Folha nº: ...  
SIN 05

Proj. nº: ...

EIXO						OBSERVAÇÕES
Localização (Estaca)		Comprimento (m)	Quantidade (m³)	TIPO		
Início	Final					
INTERSEÇÃO TRECHO 3 COM TRECHO 4						
46	+ 0,35	+ 16,00	15,65	3,13	LFO-3	
52	+ 3,00	+ 12,00	29,00	5,80	LFO-3	
200	+ 0,00	+ 16,00	16,00	3,20	LFO-3	
INTERSEÇÃO TRECHO 3 COM TRECHO 2						
269	+ 9,38	+ 17,00	27,62	5,52	LFO-3	
276	+ 0,00	+ 15,00	15,00	3,00	LFO-3	
107	+ 10,00	+ 15,00	85,00	17,00	LFO-3	

TOTAL (m³)	37,65
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PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY

IMPLEMENTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

**Projemax** CONSULTORIA: Projetos Engenharia e Consultoria Ltda.

Projeto: 03  
Água Pretinha / Santa Lúcia - Cancela  
Escala: 1:100

Estimativa: sem recibo

Nota de Serviço  
Sinalização Horizontal Acum. - Eixo

Vício: \_\_\_\_\_

Data: \_\_\_\_\_  
jul/2019

Folha nº  
SIN 08

PROJETA: \_\_\_\_\_

LADO ESQUERDO						LADO DIREITO					
Localização (Estaca)		Comprimento (m)	Quantidade (m²)	TIPO	OBSERVAÇÕES	Localização (Estaca)		Comprimento (m)	Quantidade (m²)	TIPO	OBSERVAÇÕES
Início	Final					Início	Final				
INTERSEÇÃO TRECHO 3 COM TRECHO 4											
100 + 0,00	106 + 12,14	132,14	13,21	LBO	RAMO 100	200 + 0,00	206 + 14,22	134,22	13,42	LBO	RAMO 200
LHAS		265,00	26,50	LBO		300 + 0,00	306 + 17,07	137,07	13,71	LBO	RAMO 300
						400 + 0,00	404 + 14,25	94,25	9,43	LBO	RAMO 400
INTERSEÇÃO TRECHO 3 COM TRECHO 2											
100 + 0,00	111 + 15,57	235,57	23,56	LBO	RAMO 100	400 + 0,00	404 + 14,25	94,25	9,43	LBO	RAMO 400
200 + 0,00	209 + 1,13	181,13	18,11	LBO	RAMO 200			SUBTOTAL	45,98		
300 + 0,00	307 + 7,97	147,97	14,80	LBO	RAMO 300						
LHAS		291,00	29,10	LBO							
		SUBTOTAL	125,28								

TOTAL	171,26
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**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**

IMPLEMENTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

**Projemax** CONSULTORIA: Projetos Engenharia e Consultoria Ltda.

Projeto: 03  
Agrupamento: Santa Lúcia - Cancela  
Escala: 1:100  
Data: 11/07/2015

Nota de Serviço: Sinalização Horizontal Acesso - Bordo  
Folha nº: 01/17

Vício: 250,0000



**EIXO**

ESTACA	Comprimento (m)		Tacha Bidirecional	Tacha Monodirecional	Tachão Bidirecional	Espaçamento	Quantidade (Unid.)	Observações
	INÍCIO	FIM						
0 + 0,00	46 + 0,35	920,35	X			1 c./4m	231	
46 + 0,35	53 + 12,19	151,84			INTERSEÇÃO COM TRECHO 4			
53 + 12,19	269 + 9,88	4.317,19	X			1 c./4m	1.080	
269 + 9,88	277 + 6,06	156,68			INTERSEÇÃO COM TRECHO 2			
277 + 6,06	373 + 0,00	1.913,94	X			1 c./4m	479	
TOTAL DE TACHAS BIDIRECIONAIS							1.790	

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTATION E PAVIMENTATION DE TRECHO RODOVIÁRIO  
**Projemax** CONSULTORA: Projetos Engenharia e Consultoria Ltda.  
 Rua: 13 de Maio, 100 - Santa Lúcia - Caxambu - SP  
 CEP: 13.130-000 - Fone: (19) 3333-1000  
 E-mail: contato@projemax.com.br  
 Nota de Serviço: Tachas - Eixo  
 Data: 10/07/2015  
 Folha nº: 19/19  
 Vício: \_\_\_\_\_

**LADO DIREITO**

ESTACA	Comprimento (m)	Tacha Bidirecional	Tacha Monodirecional	Tachão Bidirecional	Espaçamento	Quantidade (Unid.)	Observações
0 + 0,00	3 + 9,00	X			1 c/16m	5	
3 + 9,00	6 + 16,00	X			1 c/4m	17	
6 + 16,00	28 + 13,00	X			1 c/16m	28	
28 + 13,00	29 + 10,00	X			1 c/4m	5	
29 + 10,00	46 + 0,35	X			1 c/16m	21	
46 + 0,35	53 + 12,19			INTERSEÇÃO COM TRECHO 4			
53 + 12,19	58 + 5,00	X			1 c/16m	6	
58 + 5,00	87 + 18,00	X			1 c/4m	149	
87 + 18,00	163 + 12,00	X			1 c/16m	32	
163 + 12,00	164 + 13,00	X			1 c/4m	5	
164 + 13,00	196 + 14,00	X			1 c/16m	19	
196 + 14,00	197 + 12,00	X			1 c/4m	5	
197 + 12,00	239 + 0,00	X			1 c/16m	7	
239 + 0,00	255 + 11,00	X			1 c/4m	14	
255 + 11,00	269 + 9,38	X			1 c/16m	6	
269 + 9,38	277 + 6,06	X			1 c/4m	38	
277 + 6,06	311 + 3,00	X			1 c/16m	6	
311 + 3,00	315 + 15,00	X			1 c/4m	72	
315 + 15,00	326 + 7,00	X			1 c/16m	83	
326 + 7,00	335 + 15,00	X			1 c/4m	18	
335 + 15,00	344 + 2,00	X			1 c/16m	43	
344 + 2,00	348 + 0,00	X			1 c/4m	23	
348 + 0,00	373 + 0,00	X			1 c/16m	14	
				INTERSEÇÃO COM TRECHO 2			
					1 c/16m	47	
					1 c/4m	11	
					1 c/16m	20	
					1 c/4m	32	
					1 c/16m	721	
SUBTOTAL							

**LADO ESQUERDO**

ESTACA	Comprimento (m)	Tacha Bidirecional	Tacha Monodirecional	Tachão Bidirecional	Espaçamento	Quantidade (Unid.)	Observações
0 + 0,00	3 + 9,00	X			1 c/16m	5	
3 + 9,00	6 + 16,00	X			1 c/4m	17	
6 + 17,00	46 + 0,35	X			1 c/16m	49	
46 + 0,35	53 + 12,19			INTERSEÇÃO COM TRECHO 4			
53 + 12,19	58 + 5,00	X			1 c/16m	6	
58 + 5,00	87 + 18,00	X			1 c/4m	149	
87 + 18,00	113 + 2,00	X			1 c/16m	32	
113 + 2,00	114 + 1,00	X			1 c/4m	5	
114 + 1,00	128 + 14,00	X			1 c/16m	19	
128 + 14,00	129 + 14,00	X			1 c/4m	5	
129 + 14,00	136 + 14,00	X			1 c/16m	9	
136 + 14,00	137 + 19,00	X			1 c/4m	7	
137 + 19,00	149 + 0,00	X			1 c/16m	14	
149 + 0,00	150 + 1,00	X			1 c/4m	6	
150 + 1,00	180 + 9,00	X			1 c/16m	38	
180 + 9,00	181 + 11,00	X			1 c/4m	6	
181 + 11,00	239 + 0,00	X			1 c/16m	72	
239 + 0,00	255 + 11,00	X			1 c/4m	83	
255 + 11,00	269 + 9,38	X			1 c/16m	18	
269 + 9,38	277 + 6,06	X			1 c/4m	43	
277 + 6,06	311 + 3,00	X			1 c/16m	23	
311 + 3,00	315 + 15,00	X			1 c/4m	14	
315 + 15,00	326 + 7,00	X			1 c/16m	47	
326 + 7,00	335 + 15,00	X			1 c/4m	11	
335 + 15,00	344 + 2,00	X			1 c/16m	20	
344 + 2,00	348 + 0,00	X			1 c/4m	32	
348 + 0,00	373 + 0,00	X			1 c/16m	730	
SUBTOTAL							

1.451

TOTAL DE TACHAS BIDIRECIONAIS

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTATION E PAVIMENTATION DE TRECHO RODOVIÁRIO  
 CONSULTORA: Projemax Engenharia e Consultoria Ltda.  
 Projeto 03  
 Água Pretinha / Santa Lúcia - Canela  
 Escala: 1:100  
 Data: JUL/2015  
 Folha nº 01/01  
 Vício: RESERVA

**EIXO**

ESTACA	Comprimento (m)		Tacha Bidirecional	Tacha Monodirecional	Tachão Bidirecional	Espaçamento	Quantidade (Unid.)	Observações	
	INÍCIO	FIM							
INTERSEÇÃO TRECHO 3 COM TRECHO 4									
46 + 0,35	46 + 16,00	15,65	X			1 c/4m	4		
52 + 3,00	53 + 12,00	29,00	X			1 c/4m	8		
200 + 0,00	200 + 16,00	16,00	X			1 c/4m	4		
INTERSEÇÃO TRECHO 3 COM TRECHO 2									
269 + 9,38	270 + 17,00	27,62	X			1 c/4m	7		
276 + 0,00	276 + 15,00	15,00	X			1 c/4m	4		
107 + 10,00	111 + 15,00	85,00	X			1 c/4m	22		
<b>TOTAL DE TACHAS BIDIRECIONAIS</b>							<b>49</b>		

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO  
**Projemax** CONSULTORIA: Projetos Engenharia e Consultoria Ltda.  
 Rua: 13 de Maio, 100 - Vila União - Presidente Kennedy - AP  
 Fone: (51) 3633-1111 - E-mail: contato@projemax.com.br  
 Nota de Serviço: Tachas Aço - Eixo  
 Data: 11/07/2018  
 Folha nº: 199/40  
 Vício: \_\_\_\_\_

**LADO DIREITO**

**LADO ESQUERDO**

ESTACA		Comprimento (m)	Tachas Bidirecional	Tacha Monodirecional	Tachão Bidirecional	Espaçamento	Quantidade (Unid.)	Observações
INÍCIO	FIM							
INTERSEÇÃO TRECHO 3 COM TRECHO 4								
100 + 0,00	100 + 15,00	15,00	X			1 c/16m	1	
100	15,00	88,00		X		1 c/16m	6	
105	3,00	106 + 12,14	X			1 c/16m	2	
ILHAS		265,00		X		1 c/4m	67	
300 + 0,00	300 + 2,00	2,00		X		1 c/16m	1	
306 + 2,00	306 + 17,07	15,07		X		1 c/16m	1	
400 + 0,00	404 + 14,25	94,25		X		1 c/16m	6	
INTERSEÇÃO TRECHO 3 COM TRECHO 2								
400 + 0,00	404 + 14,25	94,25		X		1 c/16m	6	
SUBTOTAL							30	

ESTACA		Comprimento (m)	Tachas Bidirecional	Tacha Monodirecional	Tachão Bidirecional	Espaçamento	Quantidade (Unid.)	Observações
INÍCIO	FIM							
INTERSEÇÃO TRECHO 3 COM TRECHO 4								
200 + 0,00	200 + 16,00	16,00		X		1 c/16m	1	
200	16,00	205 + 8,00		X		1 c/16m	6	
205	8,00	206 + 14,22	X			1 c/16m	2	
ILHAS		300 + 0,00		X		1 c/16m	1	
300	0,00	300 + 16,00		X		1 c/16m	1	
300	16,00	306 + 2,00		X		1 c/16m	7	
306	2,00	306 + 17,07		X		1 c/16m	1	
400 + 0,00	404 + 14,25	94,25		X		1 c/16m	6	
INTERSEÇÃO TRECHO 3 COM TRECHO 2								
400 + 0,00	404 + 14,25	94,25		X		1 c/16m	6	
SUBTOTAL							30	

TOTAL DE TACHAS MONODIRECIONAIS	125
TOTAL DE TACHAS BIDIRECIONAIS	43

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTATION E PAVIMENTATION DE TRECHO RODOVIÁRIO  
 CONSULTORA: Projemax Engenharia e Consultoria Ltda.  
 Rua: ...  
 Avenida: ...  
 Data: ...  
 Folha nº ...  
 Vício: ...

**LADO DIREITO**

LOCAL - ESTACA	QUANTIDADE (Unid.)	ESPACAMENTO (m)	QUANTIDADE (m <sup>2</sup> )	PROCEDIMENTO			OBSERVAÇÕES
				M	RV	S	
58 + 4,84	20	1 c/7	6,00		X		
68 + 1,91	34	1 c/11	10,20		X		
82 + 3,17	26	1 c/9	7,80		X		
246 + 15,63	28	1 c/7	8,40		X		
311 + 3,18	28	1 c/7	8,40		X		
326 + 6,96	24	1 c/7	7,20		X		
344 + 2,14	24	1 c/7	7,20		X		
SUBTOTAL			55,20				

**LADO ESQUERDO**

LOCAL - ESTACA	QUANTIDADE (Unid.)	ESPACAMENTO (m)	QUANTIDADE (m <sup>2</sup> )	PROCEDIMENTO			OBSERVAÇÕES
				M	RV	S	
3 + 8,87	20	1 c/7	6,00		X		
239 + 0,56	28	1 c/9	8,40		X		
252 + 6,97	20	1 c/7	6,00		X		
332 + 4,53	22	1 c/7	6,60		X		
SUBTOTAL			27,00				

NOTA

- M - MANTER
- RV - REMOVER
- S - SUBSTITUIR
- I - IMPLANTAR

TOTAL (m <sup>2</sup> )	82,20
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**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO  
**Projemax** CONSULTORIA: Projetos Engenharia e Consultoria Ltda.  
 Rua: 03, Água Pretinha / Santa Lúcia - Canela  
 E-mail:  sem escala  
 Estação:   
 Escala: 1:100  
 Data:  2015  
 Folha nº  SIN 02  
 Nota de Serviço   
 Delineamento   
 Vêco:  PROJEÇÃO:

ESTACA		Comprimento (m)	Largura da Linha (m)	Largura do Acostamento (m)	Espaçamento Entre Linhas (m)	Quantidade (m³)	Observações
INÍCIO	FIM						
INTERSEÇÃO TRECHO 03 COM TRECHO 04							
100 + 15,00	102 + 9,00	34,00	0,40	-	1,20	11,55	ILHA RAMO 100
200 + 16,00	202 + 17,00	41,00	0,40	-	1,20	13,28	ILHA RAMO 200
204 + 6,00	205 + 8,00	22,00	0,40	-	1,20	3,84	ILHA RAMO 200
INTERSEÇÃO TRECHO 03 COM TRECHO 02							
101 + 7,00	104 + 0,00	53,00	0,40	-	1,20	14,94	ILHA RAMO 100
105 + 8,00	107 + 10,00	42,00	0,40	-	1,20	9,61	ILHA RAMO 100
300 + 10,00	301 + 10,00	20,00	0,40	-	1,20	5,32	ILHA RAMO 300
SUB TOTAL						58,52	

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**

IMPLANTATION E PAVIMENTATION DE TRECHO RODOVIÁRIO

**Projemax** CONSULTORIA: Projetos Engenharia e Consultoria Ltda.

Projeto de: Água Pretinha / Santa Lúcia - Cancela

Estimado: sem escala

Elaborado: 7/1/01

Nota de Serviço Zeladoria

Data: JUL/2015

Folha nº 01 de 03

Vício: \_\_\_\_\_

PROJETA: \_\_\_\_\_

LOCAL	TIPO	ÁREA (m²)	OBSERVAÇÕES
INTERSEÇÃO TRECHO 03 COM TRECHO 04			
103 + 16,00	PA RE	6,01	
202 + 17,00	PA RE	6,01	
302 + 11,00	PA RE	6,01	
INTERSEÇÃO TRECHO 03 COM TRECHO 02			
105 + 8,00	PA RE	6,01	
207 + 9,00	PA RE	6,01	
303 + 8,00	PA RE	6,01	

TOTAL (m²)	36,06
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**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**

IMPLANTÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

**Projemax** CONSULTORIA: Projetos Engenharia e Consultoria Ltda.

Projeto de: Água Pretinha / Santa Lúcia - Cancela

Estimado: sem reser

Elaborado: 7/1/01

Notas de Serviço: DZ0000

Data: 11/2015

Folha nº: 014

Vício: RESERVA

LADO ESQUERDO				LADO DIREITO			
LOCAL ESTACA	QUANTIDADE (Unid.)	PROJETO TIPO	OBSERVAÇÕES	LOCAL ESTACA	QUANTIDADE (Unid.)	PROJETO TIPO	OBSERVAÇÕES
8 + 0.00	1			20 + 0.00	1		
TOTAL DE ABRIGOS				2			

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

**Projemax** CONSULTORIA: Projetos Engenharia e Consultoria Ltda.

Trabalho em: Água Pretinha / Santa Lúcia - Cancele

Estatuto: sem recusa

Emissão: 7/1/2011

Data: \_\_\_\_\_

Folha nº \_\_\_\_\_

Abrigo de Ônibus

Folha nº \_\_\_\_\_

Vício: \_\_\_\_\_

PROJETA: \_\_\_\_\_

REVISTA: \_\_\_\_\_



**LADO DIREITO**

LOCAL - ESTACA		COMPRIMENTO (m)	OBSERVAÇÕES
INÍCIO	FIM		
82 + 0,00	104 + 0,00	440,00	DEFENSA SEMI-MALEÁVEL

SUBTOTAL DEFENSA - IMPLANTAR 440,00

**LADO ESQUERDO**

LOCAL - ESTACA		COMPRIMENTO (m)	OBSERVAÇÕES
INÍCIO	FIM		
55 + 0,00	69 + 0,00	280,00	DEFENSA SEMI-MALEÁVEL
124 + 0,00	133 + 0,00	180,00	DEFENSA SEMI-MALEÁVEL
207 + 0,00	220 + 0,00	260,00	DEFENSA SEMI-MALEÁVEL
238 + 0,00	241 + 0,00	60,00	DEFENSA SEMI-MALEÁVEL
297 + 0,00	309 + 0,00	240,00	DEFENSA SEMI-MALEÁVEL
319 + 0,00	324 + 0,00	100,00	DEFENSA SEMI-MALEÁVEL
332 + 0,00	336 + 0,00	80,00	DEFENSA SEMI-MALEÁVEL

SUBTOTAL DEFENSA - IMPLANTAR 1.200,00

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**  
 IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO  
**Projemax** CONSULTORIA, PROJETAÇÃO, ENGENHARIA E CONSULTORIA LTDA.  
 Rua: ...  
 Avenida: ...  
 Estado: ...  
 Nota de Serviço: ...  
 Data: ...  
 FOLHA Nº ...  
 SIN 48 ...  
 VIGÊNCIA: ...

**LADO DIREITO**

LOCAL - ESTACA		COMPRIMENTO (m)	PROCEDIMENTO			OBSERVAÇÕES	LOCAL - ESTACA				COMPRIMENTO (m)	PROCEDIMENTO			OBSERVAÇÕES
INÍCIO	FIM		M	RV	D		I	INÍCIO	FIM	M		RV	D	I	
0 + 0,00	81 + 0,00	1.620,00	X	X			0 + 0,00	38 + 0,00				X	X		
95 + 0,00	97 + 0,00	40,00	X	X			79 + 0,00	128 + 0,00				X	X		
101 + 10,00	103 + 10,00	40,00	X	X			135 + 10,00	139 + 0,00				X	X		
115 + 0,00	165 + 0,00	1.000,00	X	X			148 + 0,00	209 + 0,00				X	X		
180 + 10,00	372 + 0,00	3.630,00	X	X			250 + 0,00	372 + 0,00				X	X		
0 + 0,00	372 + 0,00	7.440,00			X		0 + 0,00	372 + 0,00						X	
			<b>M - MANTER</b>				<b>I - IMPLANTAR</b>			<b>D - DESLOCAR</b>					

TOTAL - IMPLANTAR 12.000,00

TOTAL - REMOVER 6.940,00

**PREFEITURA MUNICIPAL DE PRESIDENTE KENNEDY**

IMPLANTAÇÃO E PAVIMENTAÇÃO DE TRECHO RODOVIÁRIO

**Projemax** CONSULTORA: Projetos Engenharia e Consultoria Ltda.

Trabalho em: Água Pretinha / Santa Lúcia - Canceleda  
Emissão: 7/1/2015

Estimado: sem nome  
Data: 07/01/2015  
Folha nº 01 de 07

Nota de Serviço  
Cancas

Vício: RESURTA



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## **5.0 – TERMO DE ENCERRAMENTO**

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## 5.0 – TERMO DE ENCERRAMENTO

Esta encadernação constitui o **Volume 3D – Notas de Serviço e Cálculo de Volumes**, referente à etapa do **Relatório Final - Minuta, Trecho 03** Água Pretinha / Santa Lúcia - Cancela, da “Elaboração de Projetos Executivos de Engenharia Civil Para Melhorias Operacionais de Rodovias Municipais”, que compõem o lote II do Edital de Concorrência 04/2014.

Este Relatório possui 209 (duzentas e nove) páginas numeradas de forma contínua e sequencial.

