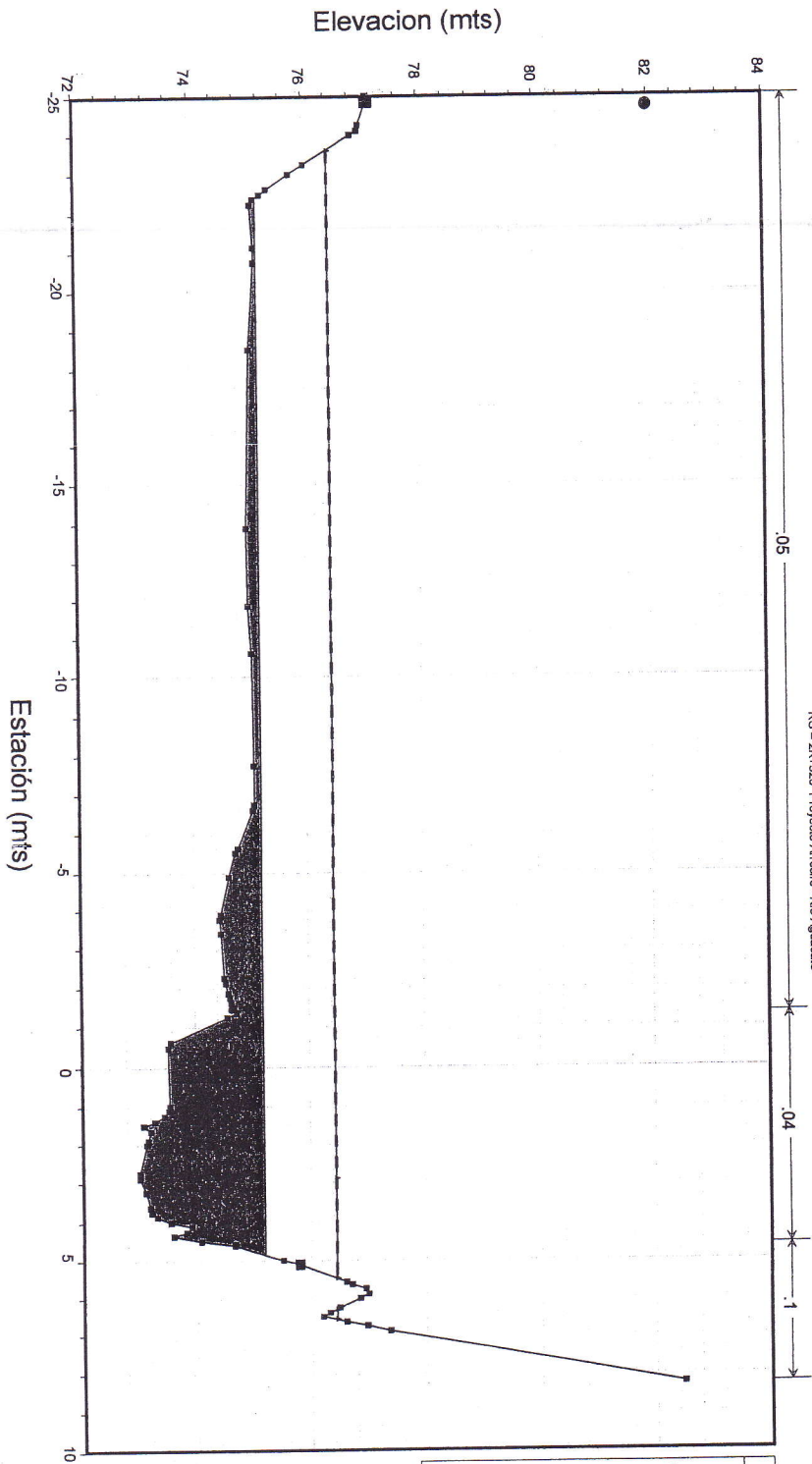


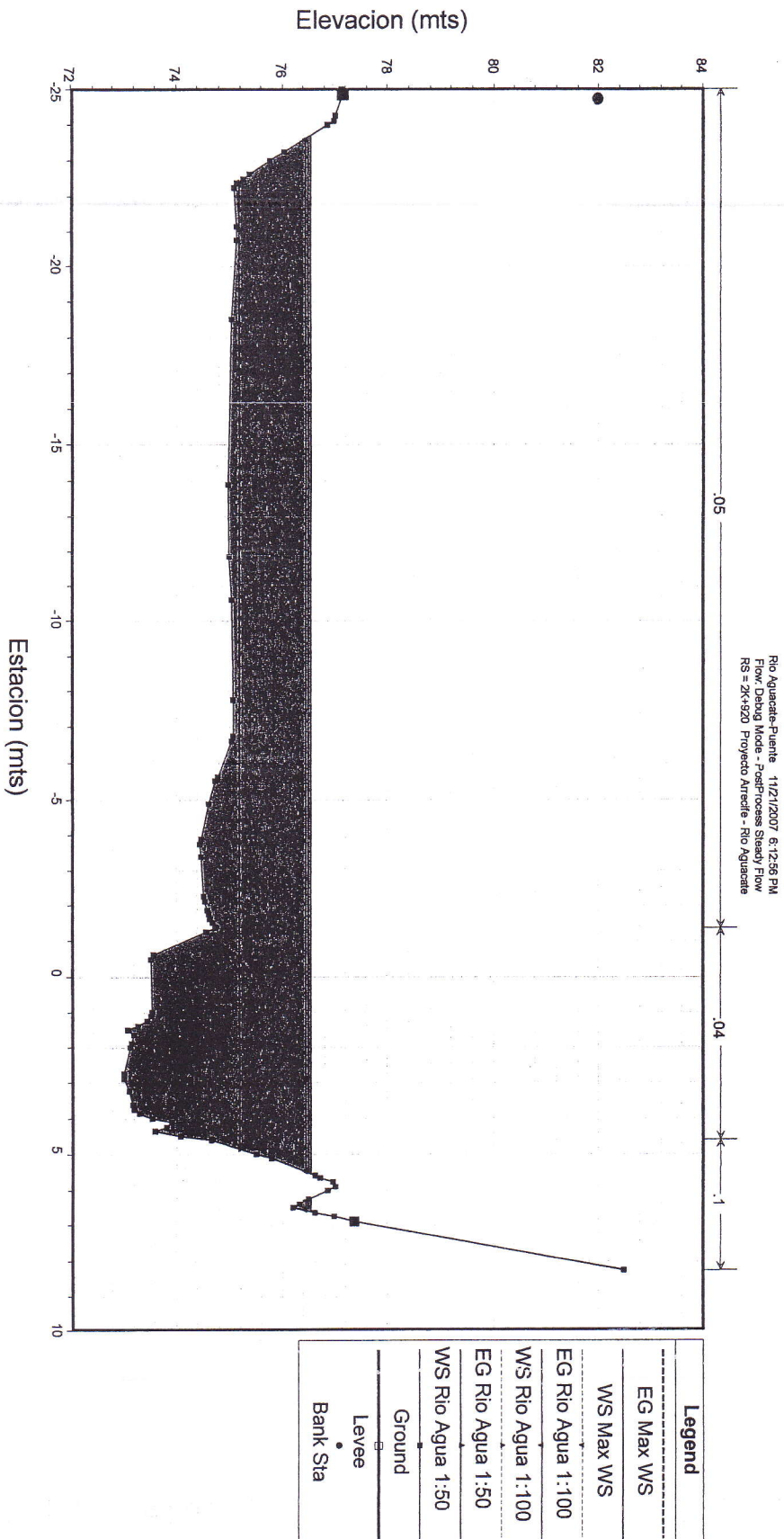
Rio Aguacate **(2K+920) Simulación 1:50 , 1:100**

Rio Aguacate-Fuente 11/21/2007 6:12:56 PM
 Flow: Debug Mode - PostProcess Steady Flow
 RS = 2K+920 Proyecto Arriale - Rio Aguacate

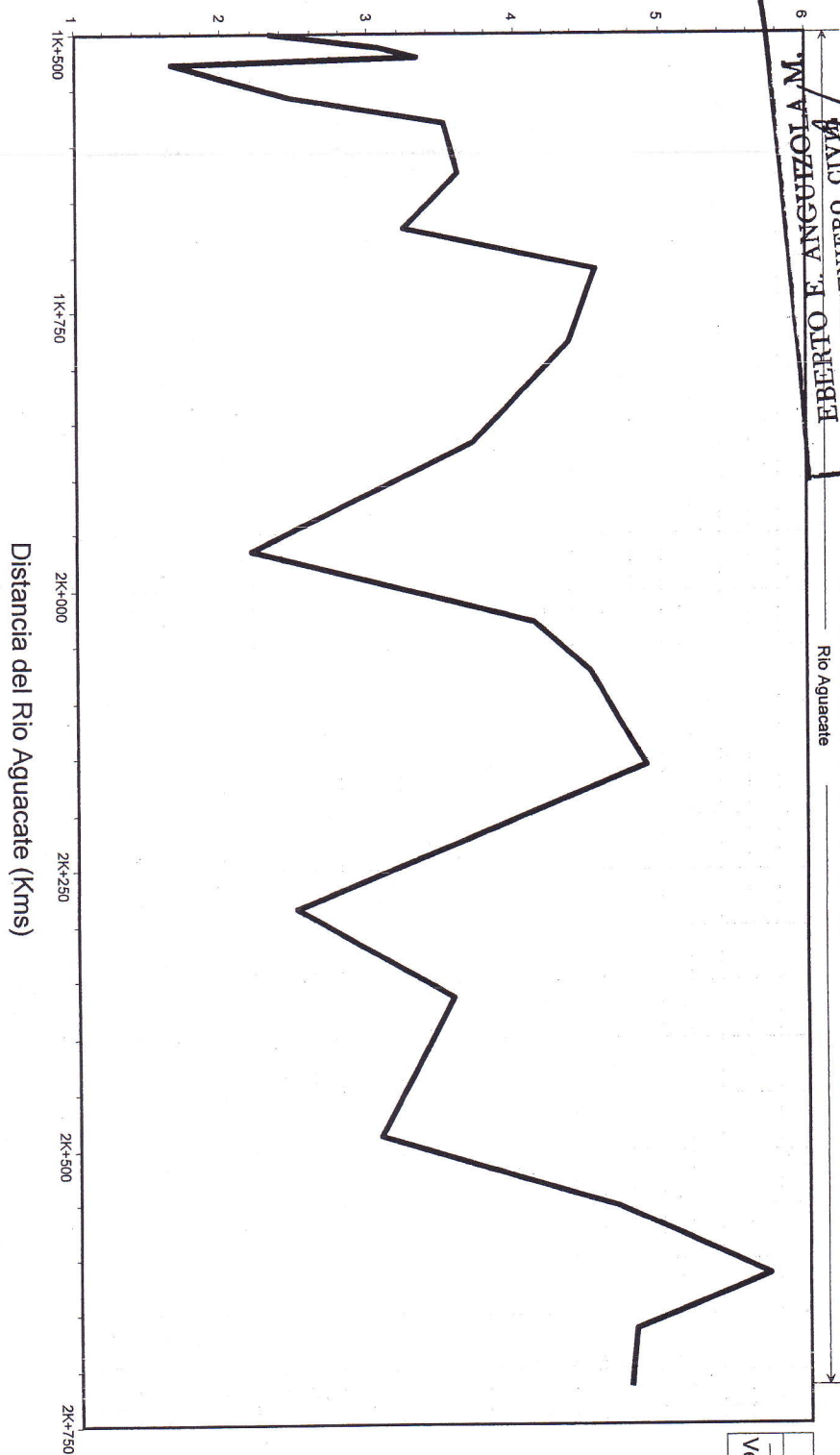


Legend	
---	EG Rio Agua 1:100
---	WS Rio Agua 1:100
---	EG Rio Agua 1:50
---	WS Rio Agua 1:50
—●—	Ground
—■—	Levee
•	Bank Sta

Río Aguacate **(2K+920) Simulación Máxima Crecida**



Vel Left (m/s), Vel Center (m/s), Vel Right (m/s)



Distancia del Rio Aguacate (Kms)

EBERTO F. ANGULO A.M.
INGENIERO CIVIL
 No. 1107-00-16 / 96
 Licencia
 Junta Técnica de Ingenieros y Arquitectos
 Ley 96 del 94
 Número de 1989

**Velocidad del Río Aguacate
 (1K+500 a 2K+750) 1:50**

Rio Aguacate Proyecto Arcele 11/21/2007 2:48:29 PM
 Flow: Estimated Thames River Flow Proyecto Arcele - Rio Aguacate

Legend
 Vel R-A 1:50

Recomendaciones en las secciones mostradas en este Estudio

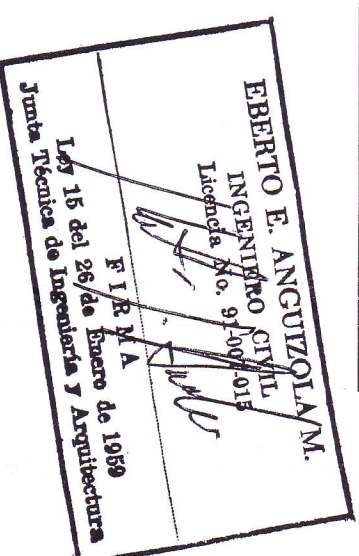
Cálculo de los niveles de terracería en las secciones críticas mostradas en este estudio:

El nivel de terracería adyacente al río Aguacate deberá ser de 2.75 metros en secciones críticas, para mitigar el nivel de las aguas máximas calculado para un periodo de retorno de 1:50 y 1:100 años.

Para referencia calcularemos algunos valores de niveles de terracería próximos al río Aguacate:

RIO AGUACATE	
Estación 1K+840	106.78 Nivel de Calle
NAME = E.FDO. + Yn	
NAME = 98.00 + 2.75 = 100.75 m	
Nivel de terracería = NAME + 1.50	
N.T = 100.75 + 1.50 = 102.25 m (ver plano)	
El nivel de calle es más alto que el nivel de crecida máxima	

RIO AGUACATE	
Estación 2K+160	104.02 Nivel de Calle
NAME = E.FDO. + Yn	
NAME = 94.00 + 2.75 = 96.75 m	
Nivel de terracería = NAME + 1.50	
N.T = 96.75 + 1.50 = 98.25m (ver plano)	
El nivel de calle es más alto que el nivel de crecida máxima	



RIO AGUACATE

Estación 2K+320

98.85 Nivel de Calle

NAME = E.FDO. + Yn

NAME = 90.00 + 2.75 = 92.75 m

Nivel de terracería = NAME + 1.50

N.T = 92.75 + 1.50 = 94.25m (ver plano)

El nivel de calle es más alto que el nivel de crecida máxima

RIO AGUACATE

Estación 2K+560

85.94 Nivel de Calle

NAME = E.FDO. + Yn

NAME = 84.00 + 2.75 = 86.75 m

Nivel de terracería = NAME + 1.50

N.T = 86.75 + 1.50 = 88.25m (ver plano)

Se recomienda la construcción de berma perimetral río de 2.50 metros, desde las estaciones (2K+480 a 2K+640)

RIO AGUACATE

Estación 2K+800 y 2K+920

84.00 Nivel de Calle

NAME = E.FDO. + Yn

NAME = 80.00 + 2.75 = 82.75 m

Nivel de terracería = NAME + 1.50

N.T = 82.75 + 1.50 = 84.25m (ver plano)

Se recomienda la construcción de berma perimetral río de 2.50 metros desde las estaciones (2K+760 a 2K+920). Además se debe construir una celda adicional al puente existente.

Ing. Eberto E. Anguizola m. MSC
Consultor Ambiental

(Hidrólogo & Hidráulico) M. M.

INGENIERO CIVIL
Licencia No. 81-07-015

E I P M A

Leí 15 del 20 de Mayo de 1959
Junta Técnica de Ingeniería y Arquitectura

Cross Section Data File

Project: Arrecife River: Tocumen

Start station: 1+600
 End station: 0+000
 Maximum left offset: -20.000000
 Maximum right offset: 15.000000
 Maximum elevation: 80.600530
 Minimum elevation: 58.640533
 Total number of sections 25

Station	Offset	Elevation	Description
---------	--------	-----------	-------------

1+600

Existing ground: TOPOGRAFIA

-20.000	2.286	
-2.630	2.190	
-2.417	2.119	
0.000	1.611	
0.300	1.548	
2.612	2.123	
2.820	2.180	
2.839	2.183	
5.114	2.405	
11.418	2.329	
23.610	2.562	
20.000	2.550	

Elaborado por:
 Landstar C & I
landstarpanama@ccableonda.net

1+620

Existing ground: TOPOGRAFIA

-20.000	2.253
-26.311	2.239
-5.365	2.169
-3.040	2.160
-2.887	2.124
0.000	1.533
0.165	1.499
3.116	2.101
3.366	2.156
3.383	2.160
3.505	2.162
19.362	2.452
20.000	2.435

1+640

Existing ground: TOPOGRAFIA

-20.000	2.266
-11.982	2.197
-3.926	2.172
-2.646	2.170
-2.413	2.159
0.000	1.593
0.385	1.503
0.456	1.473
0.571	1.501
3.066	2.150
3.106	2.160
3.155	2.161

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

18.999	2.261
20.000	2.248

1+660

Existing ground: TOPOGRAFIA

-20.000	2.369
-17.714	

Project: TOCUMEN ARRECIFE DATA LAND

November 17 02:07:01 2007

-6.280	2.320
-2.376	2.137
-0.877	1.786
0.000	1.414
0.081	1.380
1.622	1.765
2.918	2.101
16.610	2.122
20.000	2.295

1+680

Existing ground: TOPOGRAFIA

-20.000	2.413
-10.653	2.462
-9.104	2.443
-8.299	2.395
-2.338	2.116
-2.140	2.070
-0.295	1.288
0.000	1.361
2.674	2.028
2.729	2.043
3.313	2.044

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

4.860	2.063
12.684	2.397
30.000	2.358

1+700

Existing ground: TOPOGRAFIA

-20.000	2.307
-17.554	2.229
-2.555	2.225
-0.932	1.764
0.000	1.771
1.870	1.786
2.521	2.211
3.195	2.228
4.714	2.324
14.632	2.259
16.835	2.255
20.000	2.314

1+720

Existing ground: TOPOGRAFIA

-20.000	2.288
-17.005	2.278
-13.129	2.262
-5.208	2.279
-3.230	2.253
-3.056	2.250
-1.642	2.342
0.000	2.343
3.381	2.345
4.404	2.187
5.254	2.417

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

13.347	2.532
18.048	2.758
20.000	2.732

1+740

Existing ground: TOPOGRAFIA

-20.000	2.233
-17.884	2.228
-9.728	2.246

Project: Arrecife Tocumen River

-4.562	2.177
-4.109	2.171
-0.416	2.411
0.000	2.411
3.650	2.413
6.246	2.012
8.401	2.596
28.935	2.888
30.000	2.939

1+760

Existing ground: TOPOGRAFIA

-20.000	2.238
-17.060	2.237
-9.146	2.145
-5.894	2.102
-5.163	2.091
0.000	2.426
0.810	2.479
3.919	2.481
8.088	1.837
11.548	2.774

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

17November 02:07:01 2007

1+780 30.000 3.037

Existing ground: TOPOGRAFIA

-20.000	1.804
-19.439	1.795
-14.657	1.788
-12.411	2.169
-12.066	2.227
-11.411	2.587
-7.208	2.512
-6.528	2.191
-0.988	2.547
0.000	2.547
1.193	2.547
6.891	1.674
11.510	2.934
20.000	3.173

1+800

Existing ground: TOPOGRAFIA

-20.000	2.078
-27.937	2.054
-25.345	2.209
-10.872	3.325
-7.962	3.273
-6.152	2.418
-3.080	2.616
-1.871	2.616
0.000	2.329
5.417	1.499
10.829	2.975

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

12.425	3.216
12.128	4.003
18.068	5.377

1+820

Existing ground: TOPOGRAFIA

-20.000	4.322
-11.427	4.086
-9.675	2.814
-8.845	2.762

Project: Arrecife Tocumen

17 November 02:07:01 2007

-5.753	2.376
0.000	1.773
4.027	1.350
4.681	1.482
10.660	2.305
21.214	4.010
20.000	4.541

1+880

Existing ground: TOPOGRAFIA

-4.904	3.273
-3.498	2.203
-2.686	2.536
-2.023	2.315
-2.009	2.315
-1.671	1.069
0.000	1.367
2.799	1.866
3.318	2.059

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

4.749	2.056
12.314	2.484
14.197	2.512
14.917	2.537

1+900

Existing ground: TOPOGRAFIA

-5.821	3.330
-3.965	2.377
-2.251	1.806
-0.246	1.808
-0.087	1.222
0.000	1.237
2.015	1.597
3.693	2.218
8.322	2.211
11.767	2.406
15.721	2.464
17.233	2.516

1+920

Existing ground: TOPOGRAFIA

-6.796	3.222
-5.517	2.578
-5.390	2.701
-3.364	1.987
-3.357	1.981
0.000	1.865
1.403	1.817
1.648	1.818
1.676	1.851
1.921	1.878

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

4.335	2.353
11.080	2.342
11.370	2.340
16.842	2.424
19.017	2.499

1+940

Existing ground: TOPOGRAFIA

-7.536	3.318
-5.474	3.222
-4.112	2.416
-2.821	1.961
-2.511	1.623

Project: Arrecife Tocumen River

-0.764	1.563
0.000	1.567
1.855	1.576
2.155	1.925
4.766	2.211
5.643	2.384
8.091	2.380
12.869	2.345
14.858	2.375
17.823	2.479

1+960

Existing ground: TOPOGRAFIA

-8.412	3.325
-5.690	3.198
-4.621	3.148
-4.080	2.943

17 November 02:07:01 2007

Elaborado por:
Landstar C & I
landstarpanama@ccableonda.net

-1.882	1.432
0.000	1.437
1.487	1.440
1.913	1.419
1.950	1.518
2.339	1.976
5.593	2.333
6.353	2.384
12.475	2.339
13.774	2.359
16.628	2.458

1+980

Existing ground: TOPOGRAFIA

-9.557	3.198
-8.238	3.137
-4.559	2.965
-2.696	2.258
-1.550	1.471
0.000	1.475
0.206	1.475
1.735	1.400
1.866	1.755
2.067	1.991
3.746	2.175
6.271	2.343
9.560	2.319
13.889	2.384
15.434	2.437

2+000

Existing ground: TOPOGRAFIA

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

-10.580	3.073
-10.461	3.062
-7.583	2.697
-6.659	2.888
-4.424	2.783
-1.241	1.575
-1.145	1.509
-0.998	1.510
0.000	1.461
1.631	1.380
1.858	1.992
1.870	2.006
1.969	2.017
6.265	2.302

Project: Arrecife Tocumen River

17 November 02:07:01 2007

6.699	2.299
14.084	2.409
14.298	2.416

2+020

Existing ground: TOPOGRAFIA

-10.464	2.950
-7.793	2.696
-1.666	1.920
-1.375	1.633
-1.314	1.299
-0.233	1.316
0.000	1.304
1.682	1.219
1.957	1.559

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

3.136	1.740
6.378	2.371
12.006	2.454
14.125	2.395
15.737	2.431
16.251	2.431

2+040

Existing ground: TOPOGRAFIA

-10.347	2.828
-5.125	2.330
-1.865	1.917
-1.710	1.764
-1.583	1.063
0.000	1.088
0.689	1.099
1.716	1.047
2.285	1.752
4.727	2.127
6.437	2.460
9.407	2.504
14.056	2.373
17.594	2.452
18.723	2.452

2+060

Existing ground: TOPOGRAFIA

-10.449	2.705
-10.261	2.706
-9.412	2.621
-2.487	1.963
-2.102	1.914

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

-2.083	1.896
-1.890	0.827
0.000	0.857
1.572	0.882
1.712	0.875
2.575	1.944
6.270	2.511
6.462	2.548
6.796	2.553
13.956	2.351
19.373	2.473
20.096	2.473

2+080

Existing ground: TOPOGRAFIA

-12.127	2.737
-10.111	2.763

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

Project: Arrecife Tocumen River

17 November 02:07:01 2007

-4.295	2.185
-4.146	1.374
-1.824	0.859
0.000	0.885
0.843	0.896
1.626	0.877
1.915	0.954
2.295	1.705
5.548	2.124
5.767	2.307
6.162	2.403
7.551	2.441
12.833	2.323
14.676	2.341
15.598	2.380
20.691	2.495
13.026	2.494
2+100	
Existing ground: TOPOGRAFIA	
-20.000	2.776
-9.961	2.821
-6.715	2.498
-6.632	2.045
-1.619	0.932

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

-0.095	0.954
0.000	0.952
1.618	0.911
1.784	0.955
2.002	1.387
3.871	1.628
4.379	2.052
5.296	2.274
8.522	2.362
11.619	2.293
15.625	2.333
17.629	2.417
12.008	2.516
14.955	2.515

2+120

Existing ground: TOPOGRAFIA

-20.000	2.833
-9.811	2.878
-9.135	2.811
-9.118	2.717
-1.415	1.006
-1.032	1.012
0.000	0.986
1.609	0.945
1.652	0.957
1.709	1.068
2.193	1.131
2.991	1.797
4.430	2.146
9.494	2.284

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

10.405	2.263
16.575	2.325
19.660	2.455
23.326	2.537
26.884	2.536

Project: Arrecife Tocumen River

17 November 02:07:01 2007

Existing ground: TOPOGRAFIA

-20.000	2.765
-13.455	2.876
-16.962	2.163
-6.434	1.893
-3.244	1.776
-2.678	1.871
-2.556	1.834
-1.958	1.779
-1.863	1.619
-1.184	1.606
0.000	1.303
1.336	0.962
1.430	1.141
3.398	2.049
4.598	2.141
8.881	2.256
9.372	2.259
15.235	2.318
19.246	2.486

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

22.322	2.555
26.367	2.552

2+160

Existing ground: TOPOGRAFIA

-20.000	2.495
-13.136	2.063
-5.220	1.773
-3.815	2.008
-3.513	1.916
-2.030	1.780
-1.794	1.384
-0.108	1.351
0.000	1.324
1.387	0.969
1.628	1.428
2.794	1.966
5.952	2.208
8.104	2.265
9.567	2.276
12.961	2.309
18.057	2.523
20.420	2.576
15.076	2.573

2+180

Existing ground: TOPOGRAFIA

-20.000	2.494
-19.839	2.233
-7.196	1.770
-4.953	2.145
-4.469	1.999

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

-2.101	1.780
-1.725	1.148
0.000	1.115
0.968	1.097
1.437	0.977
1.827	1.716
2.190	1.884
7.306	2.274
7.326	2.275
9.761	2.292

Project: Arrecife Tocumen River

17 November 02:07:01 2007

10.688	2.301
16.867	2.561
18.517	2.597
13.785	2.595

2+200

Existing ground: TOPOGRAFIA

-20.000	2.502
-17.072	2.730
-12.246	2.820
-19.405	2.648
-17.814	1.547
-17.434	1.406
-14.501	1.294
-14.196	1.328
-13.764	1.372
-12.322	1.395

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

-11.780	1.858
-9.269	1.766
-7.958	1.986
-5.866	2.176
-5.546	2.218
-1.440	1.174
-0.369	1.203
0.000	1.205
2.170	1.219
3.271	1.490
5.055	1.465
5.400	2.081
10.141	2.434
11.116	2.410
15.593	2.598
16.534	2.619
12.412	2.615

2+220

Existing ground: TOPOGRAFIA

-20.000	2.637
-12.731	3.027
-15.070	3.791
-11.763	2.801
-8.649	2.395
-7.301	2.206
-4.340	1.772
-3.656	1.864
-2.461	1.558
0.000	1.622
1.126	1.651

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

1.817	1.655
4.908	2.413
9.846	2.334
9.936	2.497
11.187	2.590
11.447	2.583
12.654	2.634
12.910	2.639
19.409	2.635

2+240

Existing ground: TOPOGRAFIA

-20.000	2.658
-26.990	2.667
-15.278	3.295

Project: Arrecife Tocumen River

-13.804	3.265
-12.861	3.141
-5.091	2.087
-2.332	1.081
-2.254	0.965
-1.439	0.969
-1.402	1.076
0.000	1.087
1.633	1.100
5.006	2.532
9.736	2.444
10.955	2.622
11.675	2.660

17 November 02:07:01 2007

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

16.963 2.657

2+260

Existing ground: TOPOGRAFIA

-20.000	2.713
-13.068	2.734
-16.547	3.084
-11.465	2.979
-8.199	2.547
-3.719	1.940
-2.133	1.362
-1.921	1.046
0.000	1.054
0.307	1.055
0.407	1.347
2.141	1.361
4.064	2.178
6.754	2.127
9.868	2.583
11.712	2.680
14.758	2.678

2+280

Existing ground: TOPOGRAFIA

-20.000	2.768
-19.067	2.803
-17.823	2.869
-9.097	2.691
-3.489	1.949
-2.335	1.792
-1.926	1.643
-1.580	1.126

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

0.000	1.133
2.062	1.142
2.226	1.619
2.656	1.623
3.133	1.825
3.800	1.813
8.798	2.544
11.757	2.700
12.589	2.699

2+300

Existing ground: TOPOGRAFIA

-20.000	2.816
-15.801	3.272
-10.664	3.328
-9.078	3.241
-4.217	2.467
-1.918	2.057

Project: Project: Arrecife Tocumen River

-1.667	1.683
-0.237	1.544
0.000	1.545
2.271	1.561
2.383	1.888
5.871	2.391
6.177	2.634
9.635	3.011
11.771	3.123
12.786	2.682

17 November 02:07:01 2007

2+320

Existing ground: TOPOGRAFIA

-20.000	3.311
-12.762	3.865
-12.371	3.869
-8.233	3.643
-7.835	3.580
-2.014	2.541
-1.986	2.499
0.000	2.305
1.646	2.144
1.720	2.144
1.723	2.154
1.826	2.169
2.623	2.802
11.620	3.782
11.767	3.790
14.405	2.641

2+340

Existing ground: TOPOGRAFIA

-20.000	3.462
-11.613	3.629
-9.803	3.233
-6.814	3.075
-2.570	2.340
-2.507	1.933
-2.001	1.733
-0.873	1.651
0.000	1.795
2.384	2.191

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

2.387	2.191
2.534	2.490
9.276	3.248
12.407	3.501
13.547	3.680
16.025	2.600

2+360

Existing ground: TOPOGRAFIA

-20.000	3.268
-6.852	2.491
-5.340	2.411
-3.192	2.039
-3.160	1.833
-2.075	1.405
0.000	1.253
0.344	1.228
2.278	1.548
2.283	1.549
2.584	2.159
6.588	2.609

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

Project: Arrecife Tocumen River

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13.098	3.137
15.468	3.507
17.645	2.559

2+380

Existing ground: TOPOGRAFIA

-20.000	2.878
-19.888	2.863
-10.185	2.008
-7.481	1.869
-3.901	1.749
-3.865	1.747
-3.813	1.738
-3.813	1.733
-2.149	1.076
0.000	0.919
1.560	0.805
2.173	0.906
2.180	0.907
2.634	1.829
3.900	1.971
13.789	2.773
17.390	3.335
19.265	2.518

2+400

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

Existing ground: TOPOGRAFIA

-20.000	2.962
-18.033	2.678
-12.025	2.999
-10.096	3.207
-9.900	3.222
-9.769	3.176
-6.985	1.895
-3.112	1.277
-2.674	1.592
-2.545	1.554
-1.621	0.974
0.000	1.311
1.962	1.718
2.036	1.719
2.041	1.738
2.087	1.747
9.618	2.140
13.919	2.362
14.482	2.408
19.313	3.163
20.887	2.478

2+420

Existing ground: TOPOGRAFIA

-18.714	2.834
-15.154	2.462
-11.289	2.878
-8.801	3.067
-7.143	2.491
-6.048	1.987

Elaborado por:
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landstarpanama@cableonda.net

-4.524	1.744
-4.352	1.868
-1.863	1.144
-1.494	0.913
-0.065	1.209
0.000	1.232

Project: Arrecife Tocumen River DATA LAND

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1.716	1.231
1.845	1.686
2.505	1.818
5.083	2.040
13.064	2.487
17.283	2.373
11.237	2.991
12.509	2.437

2+440

Existing ground: TOPOGRAFIA

-12.181	2.650
-8.802	2.906
-8.051	2.900
-7.137	2.761
-4.888	1.980
-1.479	0.983
-1.332	0.874
0.000	0.891
1.145	0.906
1.571	0.901
3.003	1.293

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

10.511	2.456
13.018	2.518
13.798	2.518
20.145	2.347
23.161	2.819
24.131	2.396

2+460

Existing ground: TOPOGRAFIA

-12.527	2.610
-10.922	2.731
-7.983	2.708
-4.412	2.164
-3.335	1.790
-1.703	1.312
-1.118	0.881
0.000	0.895
0.067	0.896
1.742	0.876
5.973	2.036
6.982	2.329
8.263	2.256
15.602	2.437
18.600	2.440
12.977	2.322
15.059	2.647
15.729	2.356

2+480

Existing ground: TOPOGRAFIA

-13.016	2.580
-12.630	2.569

Elaborado por:
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landstarpanama@cableonda.net

	-8.017	2.531
	-2.341	1.665
	-1.951	1.616
	-1.910	1.579
	-0.978	0.892
	0.000	0.880
	1.680	0.861
	1.851	0.855
	2.141	1.506
Project:	Arrecife Tocumen River	DATA LAND

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	2.183	1.548
	8.577	2.826
	8.826	2.856
	18.060	2.360
	18.226	2.356
	13.374	2.361
	15.781	2.296
	16.926	2.475
	17.294	2.315
2+500		
Existing ground: TOPOGRAFIA		
	-14.520	2.652
	-10.039	2.523
	-8.806	2.513
	-7.288	2.281
	-2.049	1.633
	-1.509	1.138
	-1.251	0.948
	-0.514	0.939

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

0.000	0.923
1.696	0.871
1.781	1.060
2.387	1.670
4.201	2.032
9.810	2.714
12.221	2.585
17.213	2.282
18.148	2.282
18.585	2.271
18.793	2.303
18.860	2.274

2+520

Existing ground: TOPOGRAFIA

-18.087	2.828
-13.150	2.695
-12.949	2.549
-8.472	2.419
-3.188	1.766
-2.068	1.650
-1.766	1.467
-1.209	0.958
-0.655	0.921
0.000	0.901
1.636	0.852
1.794	1.027
2.788	1.168
9.353	2.546
9.929	2.779
11.725	2.590

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

15.934	2.288
19.081	2.260

2+540

Existing ground: TOPOGRAFIA

-13.064	3.058
-10.474	2.719
-9.963	2.347
-7.817	2.285
-5.285	1.972
-2.349	1.667
-1.555	1.311

Project: Arrecife Tocumen River DATA LAND

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-1.283	0.939
0.000	0.855
0.169	0.844
1.335	0.809
1.760	1.282
4.445	1.663
7.772	2.362
9.253	2.961
13.870	2.474
11.230	2.318
18.579	2.254

2+560

Existing ground: TOPOGRAFIA

-17.206	3.252
-16.807	3.264
-8.354	2.762

Elaborado por:
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-8.031	2.755
-7.974	2.723
-2.725	1.691
-2.654	1.682
-1.404	0.932
-1.396	0.919
-0.111	0.839
0.000	0.832
0.994	0.767
1.033	0.766
1.726	1.536
6.102	2.158
6.191	2.177
8.576	3.142
16.015	2.359
16.527	2.348
18.078	2.248

2+580

Existing ground: TOPOGRAFIA

-16.025	3.260
-13.430	3.339
-12.583	3.049
-7.599	2.942
-6.711	2.436
-3.685	1.840
-2.176	1.645
-1.460	1.215
-1.247	0.877
0.000	0.798
0.180	0.787

Elaborado por:
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landstarpanama@cableonda.net

1.420	0.732
1.829	1.187
2.002	1.553
4.540	1.913
6.224	2.144
7.608	2.609
9.004	3.174
13.467	2.708
16.896	2.345
13.905	2.285
18.399	2.229
19.251	2.218

2+600

Existing ground: TOPOGRAFIA

Project: Arrecife Tocumen River DATA LAND

-14.781	3.269
-19.786	3.421
-16.932	3.345
-7.162	3.135
-5.420	2.142
-4.647	1.990
-1.689	1.608
-1.507	1.499
-1.088	0.834
-0.723	0.811
0.000	0.779
1.799	0.699
1.904	0.816

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Elaborado por:
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2.256	1.560
2.908	1.652
6.288	2.116
9.069	3.049
9.444	3.200
10.641	3.075
17.581	2.341
19.545	2.324
18.703	2.211
20.000	2.194

2+620

Existing ground: TOPOGRAFIA

-13.945	3.278
-20.332	3.388
-14.278	3.152
-7.029	2.999
-5.739	2.261
-3.546	1.977
-3.227	1.482
-2.240	1.211
-1.118	1.052
-1.060	0.812
0.000	0.765
0.844	0.728
1.801	0.667
1.947	0.966
1.956	0.953
2.223	1.517
3.031	1.658
5.588	2.010

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

7.739	2.732
8.944	2.786
11.257	2.981
16.674	2.409
12.874	2.263
19.785	2.177
20.000	2.175

2+640

Existing ground: TOPOGRAFIA

-13.308	3.287
-13.018	3.296
-7.940	2.708
-6.991	2.688
-6.823	2.591
-6.536	2.554
-6.494	2.489
-4.006	1.807

Elaborado por:
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landstarpanama@cableonda.net

Project: Arrecife Tocumen River DATA LAND

-1.181	1.406
-1.034	0.802
-0.748	0.789
0.000	0.742
1.675	0.635
2.045	1.392
2.068	1.359
2.111	1.448

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4.161	1.807
4.523	1.856
4.827	1.958
7.979	2.100
14.029	2.610
14.802	2.528
20.000	2.170

2+660

Existing ground: TOPOGRAFIA

-13.730	2.804
-15.420	2.491
-4.509	2.162
-4.000	1.894
-3.178	1.794
-1.486	1.223
-1.255	0.708
0.000	0.836
0.066	0.843
1.451	0.754
1.666	1.193
2.386	1.427
4.383	1.834
5.563	2.019
7.294	2.087
8.926	2.800
10.833	3.344
11.841	2.974
13.636	2.555
19.064	2.354
17.701	2.137

Elaborado por:
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2+680

20.000

2.130

Existing ground: TOPOGRAFIA

-13.695	2.387
-11.889	2.313
-20.863	2.250
-1.719	1.669
-1.268	0.667
-1.238	0.618
0.000	0.748
1.291	0.883
1.405	0.887
1.488	1.021
2.876	1.467
8.047	2.998
10.560	3.311
10.741	3.316
10.787	3.315
12.833	2.567
12.857	2.558
13.051	2.554
14.908	2.482

Elaborado por:
Landstar C & I
landstarpanama@cableonda.net

Project: Arrecife Tocumen River DATA LAND

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2+700
13.432 2.175
14.810 2.142
10.000 2.127

Existing ground: TOPOGRAFIA

-14.054 2.535
-17.107 2.252
-13.159 2.009
-1.650 1.659
-1.379 1.057
-1.137 0.668
0.000 0.787
0.375 0.826
1.538 0.869
2.392 2.240
2.864 2.391
4.626 2.913
5.482 3.020
9.812 3.138
10.911 3.118
12.030 2.709
12.764 2.441
18.865 2.320
13.826 2.127

Elaborado por:
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27.701 2.116

2+720

Existing ground: TOPOGRAFIA

-14.413	2.683
-12.326	2.191
-5.455	1.767
-1.581	1.650
-1.489	1.447
-1.036	0.718
-0.541	0.770
0.000	0.790
1.671	0.852
2.262	1.801
2.611	2.146
6.633	2.899
8.882	2.961
11.036	2.921
11.226	2.851
12.671	2.324
19.543	2.187
14.269	2.118
14.619	2.114

2+740

Existing ground: TOPOGRAFIA

-16.688	2.840
-11.424	2.242
-9.736	2.193
-2.694	1.766
-1.707	1.603
-1.686	1.502

Elaborado por:
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