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FLOOD STUDY
TECHNICAL DATA NOTEBOOK

for

WHITE TANKS/AGUA FRIA
AREA DRAINAGE MASTER STUDY

APPENDIX I
VOLUME 10 OF 15

STAGE-STORAGE-DISCHARGE TABLES
DIVERSION TABLES
EXISTING DRAINAGE STRUCTURES

Prepared for:
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

Prepared by:
THE WLB GROUP, INC.
333 East Osborn Road, Suite 380
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May 28, 1992

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 3-13-90

STAGE - STORAGE - DISCHAGE TABLE

FOR SUB-BASIN (16)

ELEV. (FT.)	AREA, (AC.)		VOLUME (AC-FT.)	DISCHARGE (CFS.)
1198	0		0	0
		.74		
1200	.74		.74	0
		30.5		
1210	5.36		31.24	0
		83.0		
1220	11.24		114.24	0
		155.35		
1230	19.83		269.59	0
		232.1		
1240	26.59		501.69	0
		304.85		
1250	34.38		806.54	0
		512.05		
1260	68.03		1318.59	0
		457.53		
1266	84.48		1776.12	0
		132.24		
1267	90.0		1908.36	4050

WEIR FLOW OVER TOP OF DIKE

$Q = CLH^{3/2}$

$L = 3000/2 = 1500$
$C = 2.70$
$H = 1.0$

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COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 3-14-90

STAGE - STORAGE - DISCHARGE TABLE

WHITE TANKS STR # 3 SUBBASIN # 17

ELEV. (FT)	AREA (AC)		VOLUME (AC-FT)		WITH GATES CLOSED DISCHARGE (CFS)
1174	0		0	(0)	0
		.92			
1176	.92		.92	(1)	0
		12.81			
1180	5.17		13.73	(14)	0
		27.96			
1184	8.81		41.69	(42)	0
		49.28			
1188	15.83		90.97	(91)	0
		111.58			
1192	39.96		202.55	(203)	0
		262.98			
1196	91.53		465.53	(466)	0
		492.21			
1200	154.52		957.74	(958)	0
		746.36			
1204	218.66		1704.10	(1704)	0
		1011.86			
1208	287.27		2715.96	(2716)	0
		296.01			
1209	304.75		3011.97	(3012)	0
		313.50			
1210	322.24		3325.47	(3325)	3550
		331.28			
1211	340.31		3656.75	(3657)	9000
		349.34			
1212	358.38		4006.09	(4006)	17600

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COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 5-3-90

STAGE - STORAGE - DISCHARGE TABLE

TANK ON EAST SIDE OF SUBBASIN # 20

CATERPILLAR PROVING GROUNDS

ELEV. (FT)	AREA (AC)		VOLUME (ACFT)	DISCHARGE (CFS)
1443.0	0		0	0
		1.05		
1446.0	0.70		1.05	0
		8.38		
1450.0	3.49		9.43	0
		17.48		
1454.0	5.25		26.91	0
		27.4		
1458.0	8.45		54.31	0
		38.58		
1462.0	10.84		92.89	0
		45.78		
1466.0	12.05		138.67	0
		37.8		
* 1469.0	13.15		176.47	0
		13.61		
1470	14.06		190.08	265
		28.97		
1472	14.91		219.05	1377
		30.52		
1474	15.61		249.57	2963

* Overflow Elevation

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 5-2-90

STAGE - STORAGE - DISCHARGE TABLE

TANK ON EAST SIDE OF SUBBASIN # 21

CATERPILLAR PROVING GROUNDS

ELEV (FT.)	AREA (AC)		VOLUME (AC-FT)	DISCHARGE (CFS)
1319.0	0		0	0
		0.68		
1320.0	1.36		0.68	0
		20.0		
1330	2.64		20.68	0
		36.9		
1340	4.74		57.58	0
		38.33		
* 1347	6.21		95.91	0
		6.43		
1348	6.64		102.34	265
		15.31		
1350	8.67		117.65	1377
1351			130	2100

* Overflow Elevation

at 1.0 L = 105' $Q = 2.5\ 105(1.0)^{3/2} = 265$

at 3.0 L = 105 $Q = 2.5\ 105\ (3.0)^{3/2} = 1377$

at 4.0 L = 105 $Q = 2.5\ 105\ (4.0)^{3/2} = 2100$

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COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 5-2-90

STAGE - STORAGE - DISCHARGE TABLE

TANK ON SOUTHEAST SIDE OF SUBBASIN # 23

CATERPILLAR PROVING GROUNDS

ELEV. (FT)	AREA (AC)		VOLUME (AC-FT)	DISCHARGE (CFS)
1272	0.85		0	0
		6.04		
1276	2.17		6.04	0
		14.34		
1280	5.00		20.38	0
		33.44		
1284	11.72		53.82	0
		66.56		
1288	21.56		120.38	0
		95.86		
1292	26.37		216.24	0
		109.74		
1296	28.5		325.98	0
		129.44		
1300	36.22		455.42	0
		150.68		
1304	39.12		606.1	0
		39.39		
*1305	39.66		645.49	0
		40.12		
1306	40.58		685.61	920
		82.37		
1308	41.79		767.98	8950

* Overflow Elevation

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COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 5-2-90

STAGE - STORAGE - DISCHARGE TABLE

TANK IN SOUTHEAST CORNER OF SUBBASIN # 24
CATERPILLAR PROVING GROUNDS

ELEV (FT)	AREA (AC)		VOLUME (AC-FT)	DISCHARGE (CFS)
1210	0		0	0
		0.46		
1214	0.23		0.46	0
		2.5		
1216	2.27		2.96	0
		13.64		
1220	4.55		16.60	0
		69.40		
1230	9.33		86.00	0
		135.55		
1240	17.78		221.55	0
		61.44		
* 1243	23.18		282.99	0
		23.6		
1244	24.02		306.59	50 cfs
		50.43		
1246	26.41		357.02	2598 cfs

* Overflow Elevation

C = 2.5

at 1.0 L = 20 ft $Q = 2.5(20)(1.0)^{3/2} = 50$ cfs

at 3.0 L = 200 ft $Q = 25(200)(3)^{3/2} = 2598$ cfs

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Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 5-2-90

STAGE - STORAGE - DISCHARGE TABLE

TANK IN SOUTHEAST CORNER OF SUBBASIN # 25

CATERPILLAR PROVING GROUNDS

ELEV. (FT)	AREA (AC)		VOLUME (AC-FT)	DISCHARGE (CFS)
1204	0		0	0
		5.61		
1210	1.87		5.61	0
		4.66		
1212	2.79		10.27	0
		2.88		
* 1213	2.97		13.15	0
		3.47		
1214	3.96		16.62	125 cfs
		9.58		
1216	5.62		26.20	2273 cfs

* Overflow Elevation

C = 2.5

at 1.0 L = 50 $Q = 2.5(50)(1.0)^{3/2} = 125$ cfs

at 3.0 L = 175 $Q = 2.5(175)(3.0)^{3/2} = 2273$

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COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 4-27-90

STAGE - STORAGE - DISCHARGE TABLE

TANK IN SOUTHEAST CORNER OF SUBBASIN # 27
CATERPILLAR PROVING GROUNDS

ELEV. (FT)	AREA (AC)		VOLUME (AC-FT)	DISCHARGE (CFS)
1203	0		0	0
		0.13		
1204	0.25		0.13	0
		5.64		
1210	1.63		5.77	0
		3.60		
1212	1.97		9.37	0
		2.05		
* 1213	2.13		11.42	0
		2.29		
1214	2.45		13.71	550 cfs
		5.5		
1216	3.05		19.21	4546 cfs

* Overflow Elevation

C = 2.5

at 1.0 L = 220 $Q = 2.5\ 220\ (1.0)^{3/2} = 550$

at 3.0 L = 350 $Q = 2.5\ 350\ (3.0)^{3/2} = 4546$

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Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 5-2-90

STAGE - STORAGE - DISCHARGE TABLE

TANK IN THE SOUTHEAST CORNER OF SUBBASIN # 29

CATERPILLAR PROVING GROUNDS

ELEV. (FT)	AREA (AC)		VOLUME (AC-FT)	DISCHARGE (CFS)
1164.5	0		0	0
		0.99		
1166	1.32		0.99	0
		11.74		
1170	4.55		12.73	0
		10.72		
1172	6.17		23.45	0
		12.8		
1174	6.63		36.25	0
		14.43		
1176	7.80		50.68	0
		4.08		
1177.5 *	8.52		54.76	0
		4.57		
1178	9.77		59.33	88
		23.87		
1180	14.10		83.20	6226

* overflow Elevation

C = 2.5

at .5 L = 100 $Q = 2.5(100)(.5)^{3/2} = 88$

at 2.5 L = 630 $Q = 2.5(630)(2.5)^{3/2} = 6226$

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COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 5-3-90

STAGE - STORAGE - DISCHARGE TABLE

TANK ON EAST SIDE OF SUBBASIN # 38

CATERPILLAR PROVING GROUNDS

ELEV. (FT)	AREA (AC)		VOLUME (AC-FT)	DISCHARGE (CFS)
1275	0		0	0
		1.83		
1280	0.73		1.83	0
		13.55		
1290	1.98		15.38	0
		23.87		
* 1297.5	2.42		39.25	0
		2.51		
1298	2.60		41.76	44
		5.69		
1300	3.09		47.45	2223
1301			60.58	6550

* Overflow Elevation $C = 2.5$

at .5 $L = 50$ $Q = 2.5\ 50(.5)^{3/2} = 44$

at 2.5 $L = 225$ $Q = 2.5\ 225(2.5)^{3/2} = 2223$

at 3.5 $L = 400$ $Q = 2.5\ 400(3.5)^{3/2} = 6550$

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COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 4-27-90

STAGE - STORAGE - DISCHARGE TABLE

TANK IN SOUTHEASTERN PART OF SUBBASIN # 42

ELEV. (FT)	AREA (AC)		VOLUME (AC-FT)	DISCHARGE (CFS)
1071.5	0	.11	0	0
1072	.45		.11	0
		1.032		
1080	2.13		10.43	0
		31.20		
1090	4.11		41.63	0
		28.27		
* 1095	7.20		69.90	0
		7.44		
1096	7.68		77.34	163
		16.86		
1098	9.18		94.20	844
		19.46		
1100	10.28		113.66	2096
		21.04		
1102	10.76		134.70	4630
		26.08		
1104	15.32		160.78	13500

* Overflow Elevation $C = 2.5$

at 1.0 $L = 65$ $Q = 2.5(65)(1)^{3/2} = 163$

at 3.0 $L = 65$ $Q = 2.5(65)(3)^{3/2} = 844$

at 5.0 $L = 75$ $Q = 2.5(75)(5)^{3/2} = 2096$

at 7.0 $L = 100$ $Q = 2.5(100)(7)^{3/2} = 4630$

at 9.0 $L = 800$ $Q = 2.5\ 200(9)^{3/2}$ 13500

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COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUAFRIA ADMS Prepared by JSE Date 4-27-90

STAGE - STORAGE - DISCHARGE TABLE

WHITE TANKS STRUCTURE # 4 - SUBBASIN (47)

ELEV. (Ft)	AREA (AC.)		VOLUME (AC-FT)	W/ GATES - CLOSED	W/ GATES - OPEN DISCHARGE (CFS)
997	0		0		0
		2.81			
1000	1.87		2.81		0
		48.2			
1010	7.77		51.01		0
		96.9			
1020	11.61		147.91		0
		129.5			
1030	14.29		277.41		0
		265.75			
1040	38.86		543.16		0
		726.12			
* 1049	122.50		1269.28		0
		126.86			
1050	131.21		1396.14		375
		293.67			
1052	162.46		1689.81		2600
		355.63			
1054	193.17		2045.44		6150
		200.57			
** 1055	207.97		2246.01		14700

* Spillway Elevation

** Top of Dam Elevation C=2.5 L=150

at 1.0 $Q = 2.5(150)(1)^{3/2} = 375$ cfs

at 3.0 $Q = 2.5(200)(3)^{3/2} = 2600$ cfs

at 5.0 $Q = 2.5(220)(5)^{3/2} = 6150$ cfs

at 6.0 $Q = 2.5(400)(6)^{3/2}$

This analysis considers only one spillway, should use L = 330'

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COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-16-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

X STA. 6247+05 1-36" CMP

ELEVATION		VOLUME	DISCHARGE	DIVERT
1135.24		0	0	0
1136.62		.12	10	0
1138.26	Top of Bank	.25	36	0
1138.74		.3	44	44
1140.32		3.4	52	369
1142.71		6.15	61	1000

$Q = CLH^{3/2}$ Assume $C = 2.5$

at .5 $Q = 2.5(50)(.5)^{3/2} = 44$ cfs

at 1.0 $Q = 2.5(50)(1)^{3/2} = 125$ cfs

at 1.5 $Q = 2.5(50)(1.5)^{3/2} = 230$ cfs

at 2.0 $Q = 2.5(50)(2)^{3/2} = 353$ cfs

at 2.5 $Q = 2.5(50)(2.5)^{3/2} = 495$ cfs

at 4.0 $Q = 2.5(50)(4.0)^{3/2} =$

X VOID - NOT IN DRAINAGE AREA

Form 209

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COMPUTATION DATA SHEET

Subject WHITETANKS / AGUA FRIA ADMS Prepared by JSE Date 7-16-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6255+85 1-30" CMP AT CP4A1

ELEVATION	VOLUME	DISCHARGE	DIVERT
1133.45	0	0	0
1134.91	.43	10	0
1135.23	.53	14	0
1135.58	.63	18	0
1135.97	.74	23	0
1137.62	1.24	29	0
1139.0 Top of Dike	1.65	33	0
1140.3	3.40	35	834
1143.85	6.2	42	6008

Dike Length = 225' assume C = 2.5

at 1.3 $Q = 2.5(225)(1.3)^{3/2} = 834$ cfs

at 4.85 $Q = 2.5(225)(4.85)^{3/2} = 6008$ cfs

Form 209

STA 6255+85

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 12, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 1- 30" CMP	VALUE
Culvert Diameter (feet).....	2.50
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	266.0
Culvert Slope (feet per foot).....	0.0120

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.7	0.50	1.46	-0.84	1.10	1.04	1.10	4.68
13.5	0.60	1.78	-0.18	1.33	1.24	1.33	5.09
0.7							
18.0	0.70	2.13	0.82	1.60	1.44	1.60	5.43
23.0	0.80	2.52	2.21	1.92	1.63	1.92	5.67
28.7	0.90	3.05	4.17	2.50	1.83	1.83	7.47
35.1	1.00	3.66	6.85	2.50	2.01	2.01	8.29
42.2	1.10	4.53	10.40	2.50	2.17	2.17	9.31
50.1	1.20	5.67	15.08	2.50	2.30	2.30	10.60

==========

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STA 6255+85, 6267+60, 6305+22

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0125
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	9.7	3.00	0.829	0.140	0.640	3.3	8.0
0.6	13.5	3.32	0.849	0.171	0.771	4.1	8.6
0.7	18.0	3.61	0.867	0.203	0.903	5.0	9.2
0.8	23.0	3.89	0.882	0.235	1.035	5.9	9.8
0.9	28.7	4.15	0.895	0.267	1.167	6.9	10.4
1.0	35.1	4.39	0.908	0.300	1.300	8.0	11.0
1.1	42.2	4.63	0.919	0.332	1.432	9.1	11.6
1.2	50.1	4.85	0.929	0.365	1.565	10.3	12.2
1.3	58.6	5.07	0.939	0.399	1.699	11.6	12.8
1.4	67.9	5.28	0.948	0.432	1.832	12.9	13.4
1.5	78.1	5.48	0.957	0.466	1.966	14.2	14.0
1.6	89.0	5.67	0.965	0.500	2.100	15.7	14.6
1.7	100.7	5.87	0.973	0.534	2.234	17.2	15.2
1.8	113.3	6.05	0.980	0.569	2.369	18.7	15.8
2.0	141.1	6.41	0.994	0.639	2.639	22.0	17.0
2.5	226.9	7.26	1.024	0.819	3.319	31.3	20.0

==========

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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(713) 895-8322. A manual with equations & flow chart is available.

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 626+65 1-30" CMP AT (P41A2)

ELEVATION		VOLUME	DISCHARGE	DIVERT
1132.74		0	0	0
1134.07		.10	8	0
1134.98		.24	19	0
1135.56	Top of Dike	.31	24	0
1137.34		.62	30	594
1139.65		1.72	36	2068

at 1.78 Length 100' C=2.5

$Q = 2.5(100)(1.78)^{3/2} = 594$

at 4.09

$Q = 2.5(100)(4.09)^{3/2} = 2068$

Form 209

STA 6261+65, 6315+00

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 12, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0089
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	8.2	2.53	0.699	0.099	0.599	3.3	8.0
0.6	11.4	2.80	0.716	0.122	0.722	4.1	8.6
0.7	15.2	3.05	0.731	0.144	0.844	5.0	9.2
0.8	19.4	3.28	0.744	0.167	0.967	5.9	9.8
0.9	24.3	3.50	0.756	0.190	1.090	6.9	10.4
1.0	29.7	3.71	0.766	0.213	1.213	8.0	11.0
1.1	35.6	3.90	0.775	0.237	1.337	9.1	11.6
1.2	42.2	4.09	0.784	0.260	1.460	10.3	12.2
1.3	49.5	4.28	0.792	0.284	1.584	11.6	12.8
1.4	57.3	4.45	0.800	0.308	1.708	12.9	13.4
1.5	65.9	4.62	0.807	0.332	1.832	14.2	14.0

==========

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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STA 6261+65

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 12, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 1- 30" CMP	VALUE
Culvert Diameter (feet).....	2.50
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	240.0
Culvert Slope (feet per foot).....	0.0112

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.2	0.50	1.33	-0.58	1.02	0.95	1.02	4.37
11.4	0.60	1.61	-0.13	1.23	1.13	1.23	4.75
15.2	0.70	1.91	0.55	1.46	1.31	1.46	5.10
19.4	0.80	2.24	1.48	1.72	1.49	1.72	5.37
24.3	0.90	2.62	2.82	2.12	1.68	1.68	6.93
29.7	1.00	3.15	4.60	2.50	1.86	1.86	7.59
35.6	1.10	3.72	6.91	2.50	2.02	2.02	8.36
42.2	1.20	4.53	9.97	2.50	2.17	2.17	9.31
49.5	1.30	5.58	13.91	2.50	2.29	2.29	10.50
57.3	1.40	6.89	18.78	2.50	2.37	2.37	11.90

==========

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COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6267+60 1-30" CMP AT CP 41A3

ELEVATION	VOLUME	DISCHARGE	DIVERT
1128.67	0	0	0
1130.13	.86	10	0
1130.45	1.05	14	0
1130.80	1.25	18	0
1131.19	1.48	23	0
1132.94	2.51	29	0
1133.5 Top of Dike	2.84	32	0
1134.0	4.15	33	221
1134.5	5.46	34	625
1135.57	8.08	35	1861

Length = 250' C = 2.5

at .5 Q = 221 cfs

at 1.0 Q = 625 cfs

at 2.07 Q = 1861 cfs

Form 209

STA 6267+60

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 12, 1990

PROGRAM INPUT DATA:

DESCRIPTION 1-30" CMP	VALUE
Culvert Diameter (feet).....	2.50
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	260.0
Culvert Slope (feet per foot).....	0.0115

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.7	0.50	1.46	-0.65	1.11	1.04	1.11	4.61
13.5	0.60	1.78	-0.00	1.35	1.24	1.35	5.01
18.0	0.70	2.13	0.98	1.63	1.44	1.63	5.31
23.0	0.80	2.52	2.35	1.96	1.63	1.96	5.56
28.7	0.90	3.05	4.27	2.50	1.83	1.83	7.47
1.0	35.10	0.44	32.11	0.35	0.32	2.50	0.20
35.1	1.00	3.66	6.90	2.50	2.01	2.01	8.29
42.2	1.10	4.53	10.39	2.50	2.17	2.17	9.31
50.1	1.20	5.67	14.97	2.50	2.30	2.30	10.60

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STA 6255+85, 6267+60, 6305+22

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 17, 1990

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0125
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	9.7	3.00	0.829	0.140	0.640	3.3	8.0
0.6	13.5	3.32	0.849	0.171	0.771	4.1	8.6
0.7	18.0	3.61	0.867	0.203	0.903	5.0	9.2
0.8	23.0	3.89	0.882	0.235	1.035	5.9	9.8
0.9	28.7	4.15	0.895	0.267	1.167	6.9	10.4
1.0	35.1	4.39	0.908	0.300	1.300	8.0	11.0
1.1	42.2	4.63	0.919	0.332	1.432	9.1	11.6
1.2	50.1	4.85	0.929	0.365	1.565	10.3	12.2
1.3	58.6	5.07	0.939	0.399	1.699	11.6	12.8
1.4	67.9	5.28	0.948	0.432	1.832	12.9	13.4
1.5	78.1	5.48	0.957	0.466	1.966	14.2	14.0
1.6	89.0	5.67	0.965	0.500	2.100	15.7	14.6
1.7	100.7	5.87	0.973	0.534	2.234	17.2	15.2
1.8	113.3	6.05	0.980	0.569	2.369	18.7	15.8
2.0	141.1	6.41	0.994	0.639	2.639	22.0	17.0
2.5	226.9	7.26	1.024	0.819	3.319	31.3	20.0

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6273+88 1-36" CMP AT CP41A

ELEVATION		VOLUME	DISCHARGE	DIVERT
1124.36		0	0	0
1125.75		1.22	10	0
1127.38		2.65	36	0
1127.86		3.07	44	0
1128.0	Top of Dike	3.20	45	0
1128.5		4.78	47	265
1129.0		6.37	49	750
1129.5		7.96	51	1378
1129.92		9.57	52	1995

C = 2.5 Length = 300'

at .5 $Q = 2.5(300)(.5)^{3/2} = 265$

at 1.0 Q = 750 cfs

at 1.5 Q = 1378 cfs

at 1.92 Q = 1995 cfs

Form 209

STA 6273+00

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 12, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 1-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	287.0
Culvert Slope (feet per foot).....	0.0146

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
10.1	0.50	1.39	-1.93	0.98	1.01	0.98	5.03
36.3	1.00	3.02	1.78	2.10	1.96	2.10	6.88
43.6	1.10	3.50	3.42	2.45	2.15	2.45	7.05
51.7	1.20	4.10	5.56	3.00	2.34	2.34	8.75
60.5	1.00	4.85	8.27	3.00	2.51	2.51	9.58
60.5	1.30	4.85	8.27	3.00	2.51	2.51	9.58
70.2	1.40	5.81	11.70	3.00	2.66	2.66	10.59

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STA 6247+05, 6273+88, 6288+25

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 12, 1990

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0133
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	10.1	3.10	0.856	0.149	0.649	3.3	8.0
1.0	36.3	4.54	0.937	0.320	1.320	8.0	11.0
1.1	43.6	4.78	0.949	0.354	1.454	9.1	11.6
1.2	51.7	5.01	0.960	0.390	1.590	10.3	12.2
1.3	60.5	5.23	0.970	0.425	1.725	11.6	12.8
1.4	70.2	5.45	0.979	0.461	1.861	12.9	13.4
1.5	80.6	5.66	0.988	0.497	1.997	14.2	14.0
1.6	91.9	5.86	0.996	0.533	2.133	15.7	14.6
1.7	104.0	6.06	1.004	0.570	2.270	17.2	15.2
1.8	117.0	6.25	1.012	0.607	2.407	18.7	15.8
1.9	130.9	6.44	1.019	0.644	2.544	20.3	16.4
2.0	145.7	6.62	1.026	0.681	2.681	22.0	17.0
2.5	234.3	7.50	1.057	0.873	3.373	31.3	20.0

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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6288+35 2-36" CMP AT CP41-1

ELEVATION	VOLUME (AC-FT)	DISCHARGE	DIVERT
1112.69	0	0	0
1114.08 (95714)	.73	10	0
1115.71	3.47	36	0
1116 Top of Dike	3.94	44	0
1116.5	4.53	47	442
1117.0	5.12	50	1250
1117.5	5.71	52	2296

C = 2.5 Length = 500'

at .5 Q = 442

at 1.0 Q = 1250

at 1.5 Q = 2296

Form 209

STA 6288+25

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 12, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 2-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	216.0
Culvert Slope (feet per foot).....	0.0162

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
10.1	0.50	1.39	-1.28	0.96	1.01	0.96	5.19
36.3	1.00	3.02	1.76	2.01	1.96	2.01	7.20
43.6	1.10	3.50	3.09	2.33	2.15	2.33	7.41
51.7	1.20	4.10	4.81	3.00	2.34	2.34	8.75
60.5	1.30	4.85	6.99	3.00	2.51	2.51	9.58
70.2	1.40	5.81	9.74	3.00	2.66	2.66	10.59
80.6	1.50	7.00	13.11	3.00	2.78	2.78	11.80
91.9	1.60	8.48	17.26	3.00	2.86	2.86	13.23
104.0	1.70	10.27	22.30	3.00	2.91	2.91	14.84

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STA 6247+05, 6273+88, 6288+25

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 12, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0133
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	10.1	3.10	0.856	0.149	0.649	3.3	8.0
1.0	36.3	4.54	0.937	0.320	1.320	8.0	11.0
1.1	43.6	4.78	0.949	0.354	1.454	9.1	11.6
1.2	51.7	5.01	0.960	0.390	1.590	10.3	12.2
1.3	60.5	5.23	0.970	0.425	1.725	11.6	12.8
1.4	70.2	5.45	0.979	0.461	1.861	12.9	13.4
1.5	80.6	5.66	0.988	0.497	1.997	14.2	14.0
1.6	91.9	5.86	0.996	0.533	2.133	15.7	14.6
1.7	104.0	6.06	1.004	0.570	2.270	17.2	15.2
1.8	117.0	6.25	1.012	0.607	2.407	18.7	15.8
1.9	130.9	6.44	1.019	0.644	2.544	20.3	16.4
2.0	145.7	6.62	1.026	0.681	2.681	22.0	17.0
2.5	234.3	7.50	1.057	0.873	3.373	31.3	20.0

==========

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6305+22 2-42" CMP AT (CP41-2)

ELEVATION		VOLUME	DISCHARGE	DIVERT
1099.16	0	0	0	0
1100.45	1.31	.84	10	0
1100.70	1.84	1.23	14	0
1100.96	2.36	1.78	18	0
1101.23	2.75	2.46	23	0
1101.52	3.14	3.31	29	0
1101.83	3.53	4.34	35	0
1102.17	3.93	5.61	42	0
1102.83	5.23	7.63	50	0
1103.5 Top of Dike	6.55	11.57	56	0
1103.77	7.54	13.47	59	142
1104.0	8.39	15.30	61	358
1104.5	8.92	19.63	64	405
1104.95	9.45	23.76	68	1768

C = 2.5 Length = 405'

$\Delta H = .27$ Q = 142

H = .5 Q = 358

H = 1.0 Q = 405

H = 1.45 Q = 1768

Form 209

STA 6305+22

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 2-42" CMP	VALUE
Culvert Diameter (feet).....	3.50
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	200.0
Culvert Slope (feet per foot).....	0.0075

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.7	0.50	1.29	0.81	1.07	0.94	1.07	3.87
13.5	0.60	1.54	0.98	1.28	1.12	1.28	4.24
18.0	0.70	1.80	1.20	1.50	1.30	1.50	4.57
23.0	0.80	2.07	1.47	1.72	1.47	1.72	4.88
28.7	0.90	2.36	1.84	1.97	1.65	1.97	5.15
5.1	1.00	0.92	0.61	0.78	0.68	0.78	3.21
35.1	1.00	2.67	2.30	2.25	1.84	2.25	5.38
42.2	1.10	3.01	2.90	2.58	2.02	2.58	5.55
50.1	1.20	3.37	3.67	3.14	2.21	2.21	7.82
58.6	1.30	3.77	4.61	3.50	2.40	2.40	8.34
67.9	1.40	4.36	5.79	3.50	2.58	2.58	8.92
78.1	1.50	4.91	7.25	3.50	2.76	2.76	9.59

==========

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STA 6255+85, 6267+60, 6305+22

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0125
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	9.7	3.00	0.829	0.140	0.640	3.3	8.0
0.6	13.5	3.32	0.849	0.171	0.771	4.1	8.6
0.7	18.0	3.61	0.867	0.203	0.903	5.0	9.2
0.8	23.0	3.89	0.882	0.235	1.035	5.9	9.8
0.9	28.7	4.15	0.895	0.267	1.167	6.9	10.4
1.0	35.1	4.39	0.908	0.300	1.300	8.0	11.0
1.1	42.2	4.63	0.919	0.332	1.432	9.1	11.6
1.2	50.1	4.85	0.929	0.365	1.565	10.3	12.2
1.3	58.6	5.07	0.939	0.399	1.699	11.6	12.8
1.4	67.9	5.28	0.948	0.432	1.832	12.9	13.4
1.5	78.1	5.48	0.957	0.466	1.966	14.2	14.0
1.6	89.0	5.67	0.965	0.500	2.100	15.7	14.6
1.7	100.7	5.87	0.973	0.534	2.234	17.2	15.2
1.8	113.3	6.05	0.980	0.569	2.369	18.7	15.8
2.0	141.1	6.41	0.994	0.639	2.639	22.0	17.0
2.5	226.9	7.26	1.024	0.819	3.319	31.3	20.0

==========

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (L-10)

STA 6315+00 2-36" CMP AT CP41

ELEVATION		VOLUME	DISCHARGE	DIVERT
1094.67	0	0	0	0
1095.91	.78	.07	8	0
1096.15	1.57	.37	11	0
1096.42	2.03	.86	15	0
1096.89	2.49	2.15	24	0
1097.30	2.95	2.99	30	0
1097.91	3.41	4.92	36	0
1099.12	5.21	5.83	42	0
1099.5	Top of Dike 5.77	7.92	43	0
1100.0	6.82	11.06	46	354
1100.66	7.25	15.07	50	1169

C=2.5 L= 400

at .5 Q= 354 cfs

at 1.11 Q= 1169 cfs

Form 209

STA 6315+00

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 12, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 2-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	224.0
Culvert Slope (feet per foot).....	0.0088

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.2	0.50	1.24	0.12	1.00	0.90	1.00	3.95
6.0							
11.4	0.60	1.48	0.34	1.20	1.07	1.20	4.33
15.2	0.70	1.75	0.64	1.45	1.24	1.45	4.48
19.4	0.80	2.02	1.04	1.63	1.41	1.63	4.96
24.3	0.90	2.32	1.60	1.88	1.59	1.88	5.22
29.7	1.00	2.63	2.32	2.17	1.76	2.17	5.42
35.6	1.10	2.98	3.24	2.62	1.94	1.94	7.37
42.2	14.20	3.37	16.09	3.00	2.12	3.00	5.97
42.2	1.20	3.37	4.45	3.00	2.12	2.12	7.92
49.5	1.30	3.93	5.99	3.00	2.29	2.29	8.55
57.3	1.40	4.56	7.88	3.00	2.45	2.45	9.27
65.9	1.50	5.36	10.25	3.00	2.60	2.60	10.13

==========

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STA 6261+65, 6315+00

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 12, 1990

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0089
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	8.2	2.53	0.699	0.099	0.599	3.3	8.0
0.6	11.4	2.80	0.716	0.122	0.722	4.1	8.6
0.7	15.2	3.05	0.731	0.144	0.844	5.0	9.2
0.8	19.4	3.28	0.744	0.167	0.967	5.9	9.8
0.9	24.3	3.50	0.756	0.190	1.090	6.9	10.4
1.0	29.7	3.71	0.766	0.213	1.213	8.0	11.0
1.1	35.6	3.90	0.775	0.237	1.337	9.1	11.6
1.2	42.2	4.09	0.784	0.260	1.460	10.3	12.2
1.3	49.5	4.28	0.792	0.284	1.584	11.6	12.8
1.4	57.3	4.45	0.800	0.308	1.708	12.9	13.4
1.5	65.9	4.62	0.807	0.332	1.832	14.2	14.0

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 631+32, 632+33, 633+05, 634+32 AT CP43-1
1-48" 1-48" 1-48" 2-48"

ELEVATION		VOLUME	DISCHARGE	DIVERT
1091.69	0	0	0	0
1092.82	0.66	0.37	32	0
1093.25	1.32	0.80	160	0
1093.72	1.98	1.58	102	0
1094.21	2.65	2.71	120	0
1094.77	3.90	4.54	220	0
1095.08	4.59	5.86	260	0
1195.43	5.38	7.60	301	0
1196.19	Top of Dike 7.08	12.33	357	0
1196.5	8.78	14.79	378	123
1197.09	10.49	21.44	417	640

C = 2.5 L = 300'

at .3 Q = 123 cfs

at .9 Q = 640 cfs

Form 209

STA 6319+32

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 12, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 1-48" CMP	VALUE
Culvert Diameter (feet).....	4.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	234.0
Culvert Slope (feet per foot).....	0.0098

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.3	0.50	1.13	0.17	0.89	0.84	0.89	3.99
11.5	0.60	1.35	0.28	1.05	0.99	1.05	4.39
15.2	0.70	1.56	0.41	1.21	1.14	1.21	4.76
19.5	0.80	1.79	0.56	1.37	1.30	1.37	5.11
24.4	0.90	2.03	0.76	1.55	1.46	1.55	5.43
29.4	1.00	2.25	0.97	1.71	1.61	1.71	5.72
35.8	1.41	2.52	1.28	1.92	1.78	1.92	6.02
35.8	1.10	2.52	1.28	1.92	1.78	1.92	6.02
42.5	1.20	2.80	1.65	2.12	1.95	2.12	6.28
49.7	1.30	3.08	2.08	2.34	2.11	2.34	6.52
57.7	1.30	3.39	2.63	2.58	2.29	2.58	6.73
57.7	1.40	3.39	2.63	2.58	2.29	2.58	6.73
100.0	2.00	5.17	6.54	4.00	3.03	3.03	9.79
65.0	1.50	3.67	3.18	2.82	2.43	2.82	6.87
70.0	1.60	3.86	3.58	3.00	2.53	3.00	6.93
80.0	1.80	4.24	4.47	3.44	2.71	2.71	8.83

==========

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STA 632+33

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 12, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 1-48" CMP	VALUE
Culvert Diameter (feet).....	4.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	214.0
Culvert Slope (feet per foot).....	0.0112

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.3	0.50	1.13	0.05	0.86	0.84	0.86	4.19
11.5	0.60	1.35	0.16	1.01	0.99	1.01	4.62
15.2	0.70	1.56	0.29	1.16	1.14	1.16	5.02
19.5	0.80	1.79	0.44	1.33	1.30	1.33	5.36
24.4	0.90	2.03	0.63	1.49	1.46	1.49	5.73
29.8	1.00	2.27	0.85	1.66	1.62	1.66	6.04
35.8	1.10	2.52	1.13	1.83	1.78	1.83	6.40
42.5	1.20	2.80	1.48	2.04	1.95	2.04	6.60
49.7	1.30	3.08	1.89	2.24	2.11	2.24	6.86
57.7	1.40	3.39	2.40	2.47	2.29	2.47	7.10

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STA 6323+05

DICE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

PROGRAM INPUT DATA:

DESCRIPTION 1-48" CMP

	VALUE
Culvert Diameter (feet).....	4.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	218.0
Culvert Slope (feet per foot).....	0.0078

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.3	0.50	1.13	0.75	0.94	0.84	0.94	3.69
11.5	0.60	1.35	0.85	1.11	0.93	1.11	4.06
15.2	0.70	1.56	0.99	1.28	1.14	1.28	4.39
19.5	0.80	1.79	1.14	1.46	1.32	1.46	4.71
24.4	0.90	2.03	1.31	1.65	1.46	1.65	5.00
29.8	1.00	2.27	1.56	1.84	1.62	1.84	5.28
35.8	1.10	2.52	1.84	2.05	1.78	2.05	5.52
42.5	1.20	2.80	2.19	2.24	1.93	2.23	5.76
49.7	1.30	3.09	2.61	2.52	2.1	2.52	5.96
57.7	1.40	3.39	3.12	2.81	2.24	2.81	6.12
66.2	1.50	3.71	3.74	3.14	2.45	3.45	6.18
75.5	1.60	4.06	4.50	3.74	2.63	2.64	6.62
85.5	1.70	4.45	5.40	4.04	2.80	2.80	6.93
96.1	1.80	5.24	6.45	4.03	2.97	2.97	7.60
107.5	1.90	5.54	7.72	4.00	3.14	3.14	10.17

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STA 6324+32

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 13, 1990

PROGRAM INPUT DATA:

DESCRIPTION 2-48" CMP	VALUE
Culvert Diameter (feet).....	4.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	212.0
Culvert Slope (feet per foot).....	0.0080

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.3	0.50	1.13	0.75	0.93	0.84	0.93	3.73
11.5	0.60	1.35	0.86	1.10	0.99	1.10	4.10
15.2	0.70	1.56	0.99	1.27	1.14	1.27	4.44
19.5	0.80	1.79	1.14	1.45	1.30	1.45	4.76
24.4	0.90	2.03	1.32	1.63	1.46	1.63	5.06
29.8	1.00	2.27	1.55	1.82	1.62	1.82	5.35
35.8	1.10	2.52	1.83	2.05	1.78	2.05	5.53
57.8	1.40	3.39	3.10	2.77	2.29	2.77	6.23
100.0	2.00	5.17	6.77	4.00	3.03	3.03	9.79

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STA 6319+32, 6321+33, 6323+05, 6324+32, 6326+40

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0090
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	8.3	2.54	0.703	0.100	0.600	3.3	8.0
0.6	11.5	2.82	0.721	0.123	0.723	4.1	8.6
0.7	15.2	3.07	0.735	0.146	0.846	5.0	9.2
0.8	19.5	3.30	0.748	0.169	0.969	5.9	9.8
0.9	24.4	3.52	0.760	0.192	1.092	6.9	10.4
1.0	29.8	3.73	0.770	0.216	1.216	8.0	11.0
1.1	35.8	3.93	0.780	0.239	1.339	9.1	11.6
1.2	42.5	4.12	0.789	0.263	1.463	10.3	12.2
1.3	49.7	4.30	0.797	0.287	1.587	11.6	12.8
1.4	57.7	4.48	0.805	0.311	1.711	12.9	13.4
1.5	66.2	4.65	0.812	0.335	1.835	14.2	14.0
1.6	75.5	4.81	0.819	0.360	1.960	15.7	14.6
1.7	85.5	4.98	0.825	0.385	2.085	17.2	15.2
1.8	96.1	5.14	0.831	0.410	2.210	18.7	15.8
1.9	107.6	5.29	0.837	0.435	2.335	20.3	16.4

==========

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6326+40 1-36" CMP AT CP43-2

ELEVATION		VOLUME	DISCHARGE	DIVERT
1092.03	0	0	0	0
1093.28	0.97	0.12	8	0
1093.52	1.16	0.38	12	0
1093.78	1.36	0.71	15	0
1094.05	1.57	1.11	20	0
1094.35	1.73	1.61	24	0
1095.13	2.15	3.12	36	0
1095.50	Top of Bank 2.35	3.95	38	0
1096.0	2.62	5.19	40	88
1096.3	2.70	6.02	43	179
1096.5	3.2	6.63	45	390

C = 2.5 L = 100

at .5 Q = 88

at .8 Q = 179

at 1.0 Q = 390 L = 150

Form 209

STA 6326+40

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 13, 1990

PROGRAM INPUT DATA:

DESCRIPTION 1-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	208.0
Culvert Slope (feet per foot).....	0.0096

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.3	0.50	1.25	0.10	0.99	0.91	0.99	4.09
11.5	0.60	1.49	0.31	1.18	1.08	1.18	4.48
15.2	0.70	1.75	0.60	1.37	1.24	1.37	4.82
19.5	0.80	2.02	0.99	1.59	1.42	1.59	5.12
24.4	1.00	2.32	1.52	1.83	1.59	1.83	5.40
35.8	1.10	2.99	3.10	2.49	1.94	1.94	7.38
42.5	1.20	3.39	4.27	3.00	2.12	2.12	7.95
49.7	1.30	3.94	5.71	3.00	2.29	2.29	8.57
57.7	1.40	4.60	7.56	3.00	2.46	2.46	9.30

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STA 6319+32, 6321+33, 6323+05, 6324+32, 6326+40

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0090
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	8.3	2.54	0.703	0.100	0.600	3.3	8.0
0.6	11.5	2.82	0.721	0.123	0.723	4.1	8.6
0.7	15.2	3.07	0.735	0.146	0.846	5.0	9.2
0.8	19.5	3.30	0.748	0.169	0.969	5.9	9.8
0.9	24.4	3.52	0.760	0.192	1.092	6.9	10.4
1.0	29.8	3.73	0.770	0.216	1.216	8.0	11.0
1.1	35.8	3.93	0.780	0.239	1.339	9.1	11.6
1.2	42.5	4.12	0.789	0.263	1.463	10.3	12.2
1.3	49.7	4.30	0.797	0.287	1.587	11.6	12.8
1.4	57.7	4.48	0.805	0.311	1.711	12.9	13.4
1.5	66.2	4.65	0.812	0.335	1.835	14.2	14.0
1.6	75.5	4.81	0.819	0.360	1.960	15.7	14.6
1.7	85.5	4.98	0.825	0.385	2.085	17.2	15.2
1.8	96.1	5.14	0.831	0.410	2.210	18.7	15.8
1.9	107.6	5.29	0.837	0.435	2.335	20.3	16.4

==========

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject White Tanks / Agua Fria ADMS Prepared by G A Date 9/18/90

STAGE - STORAGE - DISCHARGE TABLE (CI-10)

STA 6330+50, 6335+25, 6340+10 AT CP43-3
1-36" 1-36" 1-36"

	ELEVATION		VOLUME	DISCHARGE	DIVERT
	1092.84	0	0	0	0
	1094.12	3.86	2.47	27	0
	1094.37	4.45	3.51	36	0
	1094.65	5.11	4.85	48	0
	1094.93	5.77	6.37	63	0
	1095.24	6.51	8.27	78	0
	1095.59	7.33	10.69	93	0
Top of Bank	1096.00	8.30	13.89	192	63
	1096.56	9.08	18.76	114	250
	1097.79	10.80	30.99	135	816

C = 2.5 ; L = 100'

at .4 Q = 63

at 1.0 Q = 250

at 2.2 Q = 816

Form 200

STA 6330+50

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 1-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	208.0
Culvert Slope (feet per foot).....	0.0086

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.7	0.50	1.28	0.33	1.05	0.93	1.05	3.95
12.1	0.60	1.53	0.56	1.25	1.10	1.25	4.36
16.1	0.70	1.81	0.88	1.47	1.28	1.47	4.67
20.6	0.80	2.09	1.31	1.70	1.46	1.70	4.99
25.7	0.90	2.40	1.88	2.02	1.64	2.02	5.09
31.4	1.00	2.73	2.64	2.30	1.82	2.30	5.39
37.8	1.10	3.11	3.64	3.00	2.00	2.00	7.55
44.8	1.20	3.62	4.92	3.00	2.18	2.18	8.14
52.4	1.30	4.15	6.52	3.00	2.35	2.35	8.81
60.8	1.40	4.87	8.55	3.00	2.52	2.52	9.61

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STA 6535+25

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

PROGRAM INPUT DATA:

DESCRIPTION 1-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	204.0
Culvert Slope (feet per foot).....	0.0098

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.7	0.50	1.28	0.12	1.00	0.93	1.00	4.24
12.1	0.60	1.53	0.35	1.20	1.10	1.20	4.57
16.1	0.70	1.81	0.67	1.41	1.28	1.41	4.93
20.6	0.80	2.09	1.09	1.63	1.46	1.63	5.24
0.7	0.90	0.36	-0.36	0.29	0.27	0.29	1.99
25.7	0.90	2.40	1.65	1.88	1.64	1.88	5.51
31.4	1.00	2.73	2.40	2.19	1.82	2.19	5.68
37.8	1.10	3.11	3.39	2.66	2.00	2.00	7.55
44.8	1.20	3.62	4.65	3.00	2.18	2.18	8.14
52.4	1.30	4.15	6.22	3.00	2.35	2.35	8.81
60.8	1.40	4.87	8.23	3.00	2.52	2.52	9.61
69.8	1.50	5.77	10.67	3.00	2.65	2.65	10.55

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STA 6340+10

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 1-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	198.0
Culvert Slope (feet per foot).....	0.0081

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.7	0.50	1.28	0.51	1.06	0.93	1.06	3.90
2.1							
12.1	0.60	1.53	0.74	1.27	1.10	1.27	4.26
16.1	0.70	1.81	1.05	1.49	1.28	1.49	4.58
20.6	0.80	2.09	1.46	1.73	1.46	1.73	4.87
25.7	0.90	2.40	2.02	2.01	1.64	2.01	5.10
31.4	1.00	2.73	2.75	2.37	1.82	1.82	7.01
37.8	1.10	3.11	3.72	3.00	2.00	2.00	7.55
44.8	1.20	3.62	4.95	3.00	2.18	2.18	8.14
52.4	1.30	4.15	6.49	3.00	2.35	2.35	8.81
60.8	1.40	4.87	8.45	3.00	2.52	2.52	9.61
69.8	1.50	5.77	10.84	3.00	2.65	2.65	10.55

==========

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STA 6330+50, 6335+25, 6340+10, 6343+25, 6345+65

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 17, 1990

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0100
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	8.7	2.68	0.741	0.112	0.612	3.3	8.0
0.6	12.1	2.97	0.759	0.137	0.737	4.1	8.6
0.7	16.1	3.23	0.775	0.162	0.862	5.0	9.2
0.8	20.6	3.48	0.789	0.188	0.988	5.9	9.8
0.9	25.7	3.71	0.801	0.214	1.114	6.9	10.4
1.0	31.4	3.93	0.812	0.240	1.240	8.0	11.0
1.1	37.8	4.14	0.822	0.266	1.366	9.1	11.6
1.2	44.8	4.34	0.831	0.292	1.492	10.3	12.2
1.3	52.4	4.53	0.840	0.319	1.619	11.6	12.8
1.4	60.8	4.72	0.848	0.346	1.746	12.9	13.4
1.5	69.8	4.90	0.856	0.373	1.873	14.2	14.0
1.6	79.6	5.08	0.863	0.400	2.000	15.7	14.6
1.7	90.1	5.25	0.870	0.427	2.127	17.2	15.2
1.8	101.3	5.41	0.876	0.455	2.255	18.7	15.8
1.9	113.4	5.58	0.883	0.483	2.383	20.3	16.4
2.0	126.2	5.74	0.889	0.511	2.511	22.0	17.0

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject White Tanks / Agua Fria ADMS Prepared by GA Date 9/18/90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6343+25, 6345+65 AT CP43-4
1-36" 1-36"

	ELEVATION	h	VOLUME	DISCHARGE	DIVERT
	1092.84	0	0	0	0
	1094.12	1.39	0.89	18	0
	1094.39	1.7	1.27	24	0
	1094.65	2.06	1.80	32	0
	1094.93	2.41	2.43	42	0
	1095.24	2.80	3.24	52	0
	1095.59	3.24	3.31	62	0
Top of Bank ←	1096.00	3.76	4.75	68	63
	1096.56	4.47	7.05	76	250
	1097.79	4.94	12.83	90	816

C = 2.5 ; L = 100'

at .4 Q = 63

at 1.0 Q = 250

at 2.2 Q = 816

Form 209

STA 6343+25

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 1-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	200.0
Culvert Slope (feet per foot).....	0.0081

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.7	0.50	1.28	0.50	1.06	0.93	1.06	3.90
12.1	0.60	1.53	0.72	1.27	1.10	1.27	4.26
16.1	0.70	1.81	1.04	1.49	1.28	1.49	4.58
20.6	0.80	2.09	1.45	1.73	1.46	1.73	4.87
25.7	0.90	2.40	2.01	2.01	1.64	2.01	5.10
31.4	1.00	2.73	2.75	2.37	1.82	1.82	7.01
37.8	1.10	3.11	3.72	3.00	2.00	2.00	7.55
44.8	1.20	3.62	4.96	3.00	2.18	2.18	8.14
52.4	1.30	4.15	6.52	3.00	2.35	2.35	8.81
60.8	1.40	4.87	8.49	3.00	2.52	2.52	9.61
69.8	1.50	5.77	10.90	3.00	2.65	2.65	10.55

==========

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STA 6345+65

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

PROGRAM INPUT DATA:

DESCRIPTION 1-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	210.0
Culvert Slope (feet per foot).....	0.0120

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.7	0.50	1.28	-0.40	0.96	0.93	0.96	4.49
12.1	0.60	1.53	-0.17	1.14	1.10	1.14	4.92
16.1	0.70	1.81	0.16	1.33	1.28	1.33	5.31
20.6	0.80	2.09	0.59	1.54	1.46	1.54	5.66
25.7	0.90	2.40	1.16	1.76	1.64	1.76	5.95
31.4	1.00	2.73	1.93	2.02	1.82	2.02	6.21
37.8	1.10	3.11	2.93	2.35	2.00	2.35	6.38
44.8	1.20	3.62	4.22	3.00	2.18	2.18	8.14
52.4	1.30	4.15	5.83	3.00	2.35	2.35	8.81
60.8	1.40	4.87	7.88	3.00	2.52	2.52	9.61
69.8	1.50	5.77	10.37	3.00	2.65	2.65	10.55

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STA 6330+50, 6335+25, 6340+10, 6343+25, 6345+65

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0100
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	8.7	2.68	0.741	0.112	0.612	3.3	8.0
0.6	12.1	2.97	0.759	0.137	0.737	4.1	8.6
0.7	16.1	3.23	0.775	0.162	0.862	5.0	9.2
0.8	20.6	3.48	0.789	0.188	0.988	5.9	9.8
0.9	25.7	3.71	0.801	0.214	1.114	6.9	10.4
1.0	31.4	3.93	0.812	0.240	1.240	8.0	11.0
1.1	37.8	4.14	0.822	0.266	1.366	9.1	11.6
1.2	44.8	4.34	0.831	0.292	1.492	10.3	12.2
1.3	52.4	4.53	0.840	0.319	1.619	11.6	12.8
1.4	60.8	4.72	0.848	0.346	1.746	12.9	13.4
1.5	69.8	4.90	0.856	0.373	1.873	14.2	14.0
1.6	79.6	5.08	0.863	0.400	2.000	15.7	14.6
1.7	90.1	5.25	0.870	0.427	2.127	17.2	15.2
1.8	101.3	5.41	0.876	0.455	2.255	18.7	15.8
1.9	113.4	5.58	0.883	0.483	2.383	20.3	16.4
2.0	126.2	5.74	0.889	0.511	2.511	22.0	17.0

==========

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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6349+45 1-36" CMP AT CP43-5

ELEVATION		VOLUME	DISCHARGE	DIVERT
1089.76	0	0	0	0
1091.09	0.52	0.09	9	0
1091.35	0.64	0.24	13	0
1091.64	0.77	0.44	17	0
1091.94	0.91	0.69	22	0
1092.26	1.05	1.00	27	0
1092.62	1.27	1.42	34	0
1093.13	1.57	2.14	40	0
1093.5	1.80	2.76	42	0
1094.0	Top of Bank 2.09	3.73	44	0
1094.5	2.36	4.84	46	88
1094.94	2.62	5.94	48	228

C = 2.5 L = 100'

at .5 Q = 88 cfs

at .94 Q = 228 cfs

Form 209

STA 6349+45

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 1-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	280.0
Culvert Slope (feet per foot).....	0.0121

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.3	0.50	1.33	-1.18	0.99	0.96	0.99	4.58
12.0							
12.9	0.60	1.59	-0.88	1.18	1.14	1.18	5.02
17.2	0.70	1.88	-0.46	1.38	1.33	1.38	5.43
22.0	0.80	2.18	0.12	1.64	1.51	1.64	5.56
27.4	0.90	2.50	0.91	1.83	1.69	1.83	6.07
33.6	1.00	2.86	1.99	2.12	1.88	2.12	6.30
40.3	1.10	3.26	3.37	2.50	2.07	2.07	7.76
0.8							
47.8	1.20	3.84	5.18	3.00	2.25	2.25	8.40
56.0	1.30	4.45	7.48	3.00	2.43	2.43	9.14
64.9	1.40	5.26	10.35	3.00	2.58	2.58	10.02

==========

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STA 6349+45

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0114
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	9.3	2.86	0.791	0.127	0.627	3.3	8.0
0.6	12.9	3.17	0.811	0.156	0.756	4.1	8.6
0.7	17.2	3.45	0.828	0.185	0.885	5.0	9.2
0.8	22.0	3.71	0.842	0.214	1.014	5.9	9.8
0.9	27.4	3.96	0.855	0.244	1.144	6.9	10.4
1.0	33.6	4.19	0.867	0.273	1.273	8.0	11.0
1.1	40.3	4.42	0.878	0.303	1.403	9.1	11.6
1.2	47.8	4.63	0.888	0.333	1.533	10.3	12.2
1.3	56.0	4.84	0.897	0.364	1.664	11.6	12.8
1.4	64.9	5.04	0.906	0.394	1.794	12.9	13.4
1.5	74.5	5.23	0.914	0.425	1.925	14.2	14.0

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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6354+00 1-36" CMP AT CP43-6

ELEVATION		VOLUME	DISCHARGE	DIVERT
1089.27	0	0	0	0
1090.58	2.43	1.59	9	0
1090.84	2.92	2.29	13	0
1091.12	3.44	3.18	17	0
1091.42	3.99	4.29	22	0
1091.73	4.57	5.62	27	0
1092.09	5.24	7.39	33	0
1092.47	6.03	9.53	39	0
1093.23	6.25	14.20	47	0
1095.27	9.82	30.25	55	0
1095.5	Top of Dike 10.36	32.52	56	0
1096	11.54	38.0	58	83
1096.5	11.83	43.84	60	265
1097	12.11	49.83	61	750
1097.5	12.40	55.96	62	1378
1097.82	12.59	59.96	64	2650

C = 2.5 L = 300'

at .23 Q = 83 at 1.0 Q = 750 at 2.32 Q = 2650
at .5 Q = 265 at 1.5 Q = 1378

Form 209

STA 6354+00

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 1-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	254.0
Culvert Slope (feet per foot).....	0.0153

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.1	0.50	1.31	-1.71	0.92	0.95	0.92	4.97
12.6	0.60	1.57	-1.44	1.08	1.13	1.08	5.47
16.8	0.70	1.85	-1.05	1.28	1.31	1.28	5.87
21.5	0.80	2.15	-0.53	1.47	1.49	1.47	6.26
26.8	0.90	2.46	0.17	1.68	1.67	1.68	6.60
32.8	1.00	2.82	1.13	1.90	1.86	1.90	6.93
39.4	1.10	3.20	2.36	2.19	2.04	2.19	7.14
46.7	1.20	3.78	3.96	2.61	2.23	2.23	8.30
54.7	1.30	4.34	6.00	3.00	2.40	2.40	9.02
63.4	1.40	5.12	8.55	3.00	2.56	2.56	9.87
72.9	1.50	6.10	11.72	3.00	2.69	2.69	10.90

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STA 6354+00

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0109
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	9.1	2.80	0.774	0.122	0.622	3.3	8.0
0.6	12.6	3.10	0.793	0.149	0.749	4.1	8.6
0.7	16.8	3.37	0.809	0.177	0.877	5.0	9.2
0.8	21.5	3.63	0.823	0.205	1.005	5.9	9.8
0.9	26.8	3.87	0.836	0.233	1.133	6.9	10.4
1.0	32.8	4.10	0.848	0.261	1.261	8.0	11.0
1.1	39.4	4.32	0.858	0.290	1.390	9.1	11.6
1.2	46.7	4.53	0.868	0.319	1.519	10.3	12.2
1.3	54.7	4.73	0.877	0.348	1.648	11.6	12.8
1.4	63.4	4.93	0.885	0.377	1.777	12.9	13.4
1.5	72.9	5.11	0.893	0.406	1.906	14.2	14.0
1.6	83.1	5.30	0.901	0.436	2.036	15.7	14.6
1.7	94.0	5.48	0.908	0.466	2.166	17.2	15.2

==========

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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 63 57+00 1-36" CMP AT CP43-7

ELEVATION		VOLUME	DISCHARGE	DIVERT
1087.57	0	0	0	0
1088.93	.40	0.27	10	0
1089.20	.49	0.39	13	0
1089.49	.58	0.55	18	0
1089.80	.64	0.74	23	0
1090.13	.79	0.98	29	0
1090.51	.91	1.30	35	0
1091.0	Top of Bank 1.04	1.78	38	0
1091.39	1.25	2.23	40	61
1093.26	1.84	5.12	42	850

C = 2.5 L = 100

at .39 Q = 61 cfs

at 2.26 Q = 850 cfs

Form 209

STA 6357+00

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 1-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	266.0
Culvert Slope (feet per foot).....	0.0117

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.7	0.50	1.36	-0.89	1.02	0.98	1.02	4.58
13.4	0.60	1.63	-0.58	1.21	1.16	1.21	5.01
17.8	0.70	1.92	-0.15	1.42	1.35	1.42	5.41
22.8	0.80	2.23	0.45	1.64	1.54	1.64	5.75
28.5	0.90	2.56	1.28	1.90	1.73	1.90	6.03
34.9	1.00	2.94	2.38	2.21	1.92	2.21	6.25
41.9	1.10	3.35	3.82	2.75	2.11	2.11	7.89
49.7	1.20	3.94	5.69	3.00	2.29	2.29	8.57
58.1	1.30	4.63	8.04	3.00	2.47	2.47	9.34
67.4	1.40	5.52	11.02	3.00	2.62	2.62	10.29

==========

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STA 6357+00

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0123
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	9.7	2.97	0.822	0.137	0.637	3.3	8.0
0.6	13.4	3.29	0.842	0.168	0.768	4.1	8.6
0.7	17.8	3.59	0.860	0.200	0.900	5.0	9.2
0.8	22.8	3.86	0.875	0.231	1.031	5.9	9.8
0.9	28.5	4.11	0.888	0.263	1.163	6.9	10.4
1.0	34.9	4.36	0.900	0.295	1.295	8.0	11.0
1.1	41.9	4.59	0.912	0.327	1.427	9.1	11.6
1.2	49.7	4.81	0.922	0.360	1.560	10.3	12.2
1.3	58.1	5.03	0.932	0.392	1.692	11.6	12.8
1.4	67.4	5.23	0.941	0.425	1.825	12.9	13.4
1.5	77.4	5.43	0.949	0.458	1.958	14.2	14.0
1.6	88.3	5.63	0.957	0.492	2.092	15.7	14.6

==========

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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6360+85 1-36" CMP AT CP43-8

ELEVATION		VOLUME	DISCHARGE	DIVERT
1085.13	0	0	0	0
1086.38	0.35	0.22	8	0
1086.62	0.46	0.32	12	0
1086.88	0.58	0.46	15	0
1087.15	0.71	0.63	20	0
1087.48	0.87	0.89	24	0
1088.28	1.25	1.74	30	0
1089.33	1.73	3.41	36	0
1090.0	Top of Bank 2.62	4.93	39	0
1090.5	2.87	6.30	41	88
1090.69	3.12	6.87	43	143

C = 2.5 L = 100

at .5 Q = 88

at .69 Q = 143

Form 209

STA 6360+85

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

PROGRAM INPUT DATA:

DESCRIPTION 1-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	258.0
Culvert Slope (feet per foot).....	0.0054

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.3	0.50	1.25	0.73	1.15	0.91	1.15	3.32
11.5	0.60	1.49	0.97	1.38	1.08	1.38	3.62
15.2	0.70	1.75	1.29	1.63	1.24	1.63	3.88
19.5	0.80	2.02	1.74	1.92	1.42	1.92	4.09
24.4	0.90	2.32	2.35	2.27	1.59	1.59	6.40
29.8	1.00	2.64	3.15	3.00	1.77	1.77	6.88
35.8	1.10	2.99	4.20	3.00	1.94	1.94	7.38
42.5	1.20	3.39	5.56	3.00	2.12	2.12	7.95
49.7	1.30	3.94	7.26	3.00	2.29	2.29	8.57
57.7	1.40	4.60	9.43	3.00	2.46	2.46	9.30
66.2	1.50	5.39	12.07	3.00	2.60	2.60	10.16

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STA 6360+85

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0090
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	8.3	2.54	0.703	0.100	0.600	3.3	8.0
0.6	11.5	2.82	0.721	0.123	0.723	4.1	8.6
0.7	15.2	3.07	0.735	0.146	0.846	5.0	9.2
0.8	19.5	3.30	0.748	0.169	0.969	5.9	9.8
0.9	24.4	3.52	0.760	0.192	1.092	6.9	10.4
1.0	29.8	3.73	0.770	0.216	1.216	8.0	11.0
1.1	35.8	3.93	0.780	0.239	1.339	9.1	11.6
1.2	42.5	4.12	0.789	0.263	1.463	10.3	12.2
1.3	49.7	4.30	0.797	0.287	1.587	11.6	12.8
1.4	57.7	4.48	0.805	0.311	1.711	12.9	13.4
1.5	66.2	4.65	0.812	0.335	1.835	14.2	14.0
1.6	75.5	4.81	0.819	0.360	1.960	15.7	14.6
1.7	85.5	4.98	0.825	0.385	2.085	17.2	15.2

==========

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COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6366+85 4-10'x8' BC'S AT CP43

ELEVATION	AREA	VOLUME	DISCHARGE	DIVERT	
1081.16	0	0	0	0	
1085.18	.26	0.52	920	0	
1087.60	3.41	4.33	1824	0	
1090.19	5.77	16.22	2976	0	
1091.5	Top of Dike 7.47	24.89	3396	0	
1092.0	8.13	28.79	3536	177	
1092.5	9.09	33.09	3676	500	
1093.0	10.05	37.88	3816	918	
1094.81	11.02	56.95	4368	2096	to E.

C = 2.5 Length = 200'

H_e (depth) at .5 Q = 177 cfs

at 1.0 Q = 500 cfs

at 1.5 Q = 918 cfs

C = Coefficient of weir flow

Form 209

STA 6366+85

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 13, 1990

PROGRAM INPUT DATA:

DESCRIPTION 4-10'x8' B.C's	VALUE
Culvert Span (Width of Opening) (feet).....	10.00
Culvert Rise (Height of Opening) (feet).....	8.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	227.0
Culvert Slope (feet per foot).....	0.0111

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
229.7	1.00	4.02	2.98	1.57	2.54	1.57	14.67
456.0	1.50	6.44	4.41	2.49	4.01	2.49	18.31
744.5	2.00	9.03	6.72	3.52	5.56	3.52	21.16
1092.1	2.50	13.65	10.36	4.66	7.18	4.66	23.46
1497.2	3.00	19.96	15.42	5.91	8.00	5.91	25.34
1959.0	3.50	29.57	22.49	7.28	8.00	7.28	26.92

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COMPUTATION DATA SHEET

Subject WHITE TANKS/ AGUAFRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

Combined Storage Table

STA 6368+00, 6370+30, 6373+00, 6375+20 CP45-1
1-12'x12' BC 2-42" CMP 2-36" CMP 1-36" CMP

ELEV.		VOLUME	DISCHARGE	DIVERT	QT
1083.1		0	0	0	0
1084.78		.85	51	0	51
1086	2.9	2.23	156	0	156
1087.4	4.3	5.73	305	895	1200
1089.0	5.9	11.22	480	2650	3130
1089.5	6.4	14.61	543	3618	4161
1090.0	6.9	19.71	610	4899	5509
1092.	8.9	31.09	894	8764	9658
1094	10.9	46.07	1212	12,600	13,812
1096	12.9	64.75	1560	24,744	26,304

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Changed

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-17-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6368+00 1-12'x12' BC AT CD45-1

ELEVATION	VOLUME	DISCHARGE	DIVERT
1083.98	0	0	0
1086.00 Top of Bank	.50	63	0
1086.93	.75	95	448
1088.39	1.5	192	1847
1089.79	5.0	321	3689
1091.30	7.5	480	6100

C = 2.5 L = 200

at .93 Q = 448 cfs

at 2.39 Q = 1847 cfs

at 3.79 Q = 3689 cfs

at 5.3 Q = 6100

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Changed

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-18-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6370+30 2-42" CMP | 6373+00 2-36" CMP | 6375+20 1-36" CMP | AT CP45-2

ELEVATION		VOLUME	DISCHARGE	DIVERT
1083.11	0	0	0	0
1084.78	0.78	0.65	26	0
1085.70	1.57	1.73	75	0
1087.4	1.97	4.74	179	0
1089.0	Top of Dike 2.36	8.20	232	0
1089.5	6.16	10.33	249	310
1090.0	9.96	14.36	267	875
1090.5	10.50	24.59	285	1607

C = 2.5 L = 350

at .5 Q = 310

at 1.0 Q = 875

at 1.5 Q = 1607

Form 209

STA 6368+00

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 12, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0083
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	20.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
1.0	95.0	4.13	0.774	0.265	1.265	23.0	26.0
1.5	192.4	5.24	0.820	0.426	1.926	36.7	29.0
2.0	320.6	6.17	0.852	0.590	2.590	52.0	32.0
2.5	480.1	6.98	0.878	0.757	3.257	68.8	35.0
3.0	671.8	7.72	0.899	0.926	3.926	87.0	38.0
3.5	896.9	8.40	0.918	1.096	4.596	106.7	41.0
4.0	1156.6	9.04	0.934	1.268	5.268	128.0	44.0
4.5	1452.3	9.63	0.948	1.441	5.941	150.7	47.0
5.0	1785.3	10.20	0.961	1.616	6.616	175.0	50.0
5.5	2157.1	10.75	0.973	1.793	7.293	200.7	53.0
6.0	2569.0	11.27	0.984	1.971	7.971	228.0	56.0
6.5	3022.3	11.77	0.994	2.152	8.652	256.7	59.0
7.0	3518.4	12.26	1.004	2.334	9.334	287.0	62.0

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TA 6370+30, 6373+00, 6375+20, 6379+84, 6381+45, 6384+25, 6388+55, 6390+50, 6395+75, 6400+60

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0111
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	9.2	2.82	0.781	0.124	0.624	3.3	8.0
0.6	12.8	3.13	0.800	0.152	0.752	4.1	8.6
0.7	16.9	3.41	0.817	0.180	0.880	5.0	9.2
0.8	21.7	3.66	0.831	0.209	1.009	5.9	9.8
0.9	27.1	3.91	0.844	0.237	1.137	6.9	10.4
1.0	33.1	4.14	0.855	0.266	1.266	8.0	11.0
1.1	39.8	4.36	0.866	0.295	1.395	9.1	11.6
1.2	47.2	4.57	0.876	0.324	1.524	10.3	12.2
1.3	55.2	4.77	0.885	0.354	1.654	11.6	12.8
1.4	64.0	4.97	0.894	0.384	1.784	12.9	13.4
1.5	73.6	5.16	0.902	0.414	1.914	14.2	14.0
1.6	83.8	5.35	0.909	0.444	2.044	15.7	14.6
1.7	94.9	5.53	0.916	0.474	2.174	17.2	15.2

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STA 6368+00

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 13, 1990

PROGRAM INPUT DATA:

DESCRIPTION 1- 12'x12' BC	VALUE
Culvert Span (Width of Opening) (feet).....	12.00
Culvert Rise (Height of Opening) (feet).....	12.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	194.0
Culvert Slope (feet per foot).....	0.0190

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
95.0	1.00	1.93	2.95	0.66	1.25	1.25	6.34
192.4	1.50	3.12	3.36	1.03	2.00	2.00	8.02
320.6	2.00	4.41	3.85	1.42	2.81	1.42	18.75
480.0	2.50	5.81	4.44	1.86	3.68	1.86	21.55
671.8	3.00	7.32	5.18	2.32	4.60	2.32	24.08
896.9	3.50	8.92	6.12	2.83	5.58	2.83	26.40
1156.6	4.00	10.63	7.31	3.38	6.61	3.38	28.54
1452.3	4.50	12.44	8.82	3.97	7.69	3.97	30.50
1785.3	5.00	14.77	10.75	4.60	8.83	4.60	32.32
2157.1	5.50	18.36	13.20	5.29	10.01	5.29	34.00
2569.0	6.00	21.97	16.28	6.02	11.25	6.02	35.55

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STA 6370+30

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 2-42" CMP	VALUE
Culvert Diameter (feet).....	3.50
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	260.0
Culvert Slope (feet per foot).....	0.0088

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.2	0.50	1.25	0.02	1.01	0.92	1.01	4.01
12.8	0.60	1.49	0.19	1.19	1.09	1.19	4.42
16.9	0.70	1.74	0.41	1.39	1.25	1.39	4.77
21.7	0.80	2.00	0.70	1.59	1.43	1.59	5.11
27.1	0.90	2.28	1.09	1.81	1.60	1.81	5.38
33.1	1.00	2.58	1.58	2.04	1.78	2.04	5.70
39.8	1.10	2.89	2.22	2.32	1.96	2.32	5.87
47.2	1.20	3.24	3.03	2.67	2.14	2.67	6.00
55.2	1.30	3.61	4.04	3.50	2.33	2.33	8.13
64.0	1.40	4.07	5.31	3.50	2.51	2.51	8.68
73.6	1.50	4.63	6.88	3.50	2.69	2.69	9.29
83.8	1.60	5.29	8.77	3.50	2.85	2.85	9.98
94.9	1.70	6.10	11.07	3.50	3.01	3.01	10.79

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STA 6373+00

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 2-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	256.0
Culvert Slope (feet per foot).....	0.0031

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.2	0.50	1.32	1.39	1.43	0.96	0.96	4.73
12.8	0.60	1.58	1.67	1.74	1.14	1.14	5.21
16.9	0.70	1.86	2.05	2.10	1.31	1.31	5.68
21.7	0.80	2.16	2.59	3.00	1.50	1.50	6.15
27.1	0.90	2.48	3.32	3.00	1.68	1.68	6.64
33.1	1.00	2.83	4.29	3.00	1.87	1.87	7.16
39.8	1.10	3.23	5.56	3.00	2.05	2.05	7.72
47.2	1.20	3.81	7.21	3.00	2.24	2.24	8.35
55.2	1.30	4.38	9.27	3.00	2.41	2.41	9.07
64.0	1.40	5.18	11.89	3.00	2.57	2.57	9.93
73.6	1.50	6.18	15.15	3.00	2.70	2.70	10.98
83.8	1.60	7.40	19.08	3.00	2.80	2.80	12.20
94.9	1.70	8.90	23.91	3.00	2.87	2.87	13.62

==========

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STA 6375+20

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
1-36" CMP	
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	256.0
Culvert Slope (feet per foot).....	0.0083

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.2	0.50	1.32	0.06	1.09	0.96	1.09	3.99
12.8	0.60	1.58	0.34	1.30	1.14	1.30	4.37
16.9	0.70	1.86	0.72	1.54	1.31	1.54	4.64
21.7	0.80	2.16	1.26	1.78	1.50	1.78	4.98
27.1	0.90	2.48	1.99	2.07	1.68	2.07	5.21
33.1	1.00	2.83	2.96	2.48	1.87	1.87	7.16
39.8	1.10	3.23	4.23	3.00	2.05	2.05	7.72
47.2	1.20	3.81	5.88	3.00	2.24	2.24	8.35
55.2	1.30	4.38	7.94	3.00	2.41	2.41	9.07
64.0	1.40	5.18	10.56	3.00	2.57	2.57	9.93

==========

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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-19-90

STAGE - STORAGE - DISCHARGE TABLE (T-10)

COMBINED STORAGE-DISCHARGE FOR STA 6379+84 2-36", 6381+45 1-36", 6384+25 2-36", 6388+55 2-36", 6390+50 2-36"

AT CP45

ELEVATION		VOLUME	DISCHARGE	DIVERT	Total
1081.16	0	0	0	0	0
1082.74	2.33	1.84	41	0	41
1084.0	4.20	5.95	132	0	132
1086.0	Top of Dike 8.40	18.55	317	0	317
1086.5	10.49	23.27	362	1100	1462
1087.0	12.59	29.04	392	3125	3517
1088.0		41.95	450		
1090.0		61.66	567		
1092.0		83.65	676		
1094.0		110.95	784		

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-18-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6379+84 2-36" CMP AT CP45

ELEVATION	VOLUME	DISCHARGE	DIVERT
1083.43	0	0	0
1087.2 ✓		9	0
1084.75		18	0
1085.01		36	0
1085.29		42	0
1085.91 Top of Dike		54	0
1086.31		66	158
1087.18		80	895

C = 2.5 L = 250

at .4 Q = 158 cfs

at 1.27 Q = 895 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-18-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6381+45 1-36" CMP AT CP45

ELEVATION	VOLUME	DISCHARGE	DIVERT
1083.45	0	0	0
1084.2 ✓		7	0
1084.77		9	0
1085.03		13	0
1085.31		17	0
1085.61		22	0
1085.93 Top of Dike		27	0
1086.28		33	129
1086.81		40	516
1088.44		47	2485

C = 2.5 L = 250

at .35 Q = 129 cfs

at .88 Q = 516 cfs

at 2.51 Q = 2485 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-18-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6384 + 25 2-36" CMP AT CP45

ELEVATION	VOLUME	DISCHARGE	DIVERT
1081.82	0	0	0
1083.40		26	0
1083.98		44	0
1084.5		51	0
1085.0		58	0
1085.18		66	0
1086.0' Top of Dike		80	0
1086.81		94	455
1088.85		110	3007

C = 2.5 L = 250

at .81 Q = 455

at 2.85 Q = 3007

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-18-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6388+55 2-36" CMP AT CP45

ELEVATION	VOLUME	DISCHARGE	DIVERT
1081.16	0	0	0
1082.74		26	0
1083.32		44	0
1084.0		55	0
1084.4		66	0
1085.62		80	0
1086.0 Top of Dike		85	0
1086.5		90	220
1087.19		94	811

C = 2.5 L = 250

at .5 Q = 220 cfs

at 1.19 Q = 811 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-18-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6390+50 2-36" CMP AT CP45

ELEVATION	VOLUME	DISCHARGE	DIVERT
1082.94	0	0	0
1084.52		26	0
1085.10		44	0
1085.77		66	0
1086.0 Top of Dike		71	0
1086.91		80	542
1088.41		94	2338

C = 2.5 L = 250

at .91 Q = 542 cfs

at 2.41 Q = 2338 cfs

Form 209

STA 637+84

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

PROGRAM INPUT DATA:

DESCRIPTION 2-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	260.0
Culvert Slope (feet per foot).....	0.0104

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.2	0.50	1.32	-0.52	1.02	0.96	1.02	4.33
12.8	0.60	1.58	-0.23	1.22	1.14	1.22	4.74
16.9	0.70	1.86	0.15	1.43	1.31	1.43	5.11
21.7	0.80	2.16	0.70	1.66	1.50	1.66	5.42
27.1	0.80	2.48	1.43	1.91	1.68	1.91	5.70
27.1	0.90	2.48	1.43	1.91	1.68	1.91	5.70
33.1	1.00	2.83	2.41	2.22	1.87	2.22	5.89
39.8	1.10	3.23	3.70	3.00	2.05	2.05	7.72
47.2	1.20	3.81	5.37	3.00	2.24	2.24	8.35
55.2	1.30	4.38	7.46	3.00	2.41	2.41	9.07
64.0	1.40	5.18	10.10	3.00	2.57	2.57	9.93
73.6	1.50	6.18	13.40	3.00	2.70	2.70	10.98

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STA 6381+45

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 1-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	252.0
Culvert Slope (feet per foot).....	0.0117

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.2	0.50	1.32	-0.77	0.99	0.96	0.99	4.50
12.8	0.60	1.58	-0.49	1.18	1.14	1.18	4.95
16.9	0.70	1.86	-0.11	1.38	1.31	1.38	5.33
21.7	0.80	2.16	0.42	1.60	1.50	1.60	5.67
27.1	0.90	2.48	1.15	1.84	1.68	1.84	5.97
33.1	1.00	2.83	2.10	2.12	1.87	2.12	6.20
39.8	1.10	3.23	3.36	2.51	2.05	2.05	7.72
47.2	1.20	3.81	4.99	3.00	2.24	2.24	8.35
55.2	1.30	4.38	7.03	3.00	2.41	2.41	9.07
64.0	1.40	5.18	9.61	3.00	2.57	2.57	9.93
73.6	1.50	6.18	12.83	3.00	2.70	2.70	10.98

==========

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STA 6384+25

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
2-36" CMP	
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	252.0
Culvert Slope (feet per foot).....	0.0067

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.2	0.50	1.32	0.49	1.16	0.96	1.16	3.65
12.8	0.60	1.58	0.77	1.38	1.14	1.38	4.04
16.9	0.70	1.86	1.15	1.62	1.31	1.62	4.33
21.7	0.80	2.16	1.68	1.90	1.50	1.90	4.59
27.1	0.90	2.48	2.41	2.26	1.68	2.26	4.74
33.1	1.00	2.83	3.36	3.00	1.87	1.87	7.16
39.8	1.10	3.23	4.62	3.00	2.05	2.05	7.72
47.2	1.20	3.81	6.25	3.00	2.24	2.24	8.35
55.2	1.30	4.38	8.29	3.00	2.41	2.41	9.07
64.0	1.40	5.18	10.87	3.00	2.57	2.57	9.93
73.6	1.50	6.18	14.09	3.00	2.70	2.70	10.98

==========

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STA 6388+55

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 2-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	240.0
Culvert Slope (feet per foot).....	0.0071

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.2	0.50	1.32	0.47	1.13	0.96	1.13	3.76
2.8	0.60	0.70	0.07	0.61	0.52	0.61	2.69
12.8	0.60	1.58	0.74	1.36	1.14	1.36	4.12
16.9	0.70	1.86	1.11	1.60	1.31	1.60	4.41
21.7	0.80	2.16	1.63	1.87	1.50	1.87	4.67
27.1	0.90	2.48	2.32	2.23	1.68	2.23	4.82
33.1	1.00	2.83	3.24	3.00	1.87	1.87	7.16
39.8	1.10	3.23	4.46	3.00	2.05	2.05	7.72
47.2	1.20	3.81	6.03	3.00	2.24	2.24	8.35
55.2	1.30	4.38	7.99	3.00	2.41	2.41	9.07
64.0	1.40	5.18	10.48	3.00	2.57	2.57	9.93
73.6	1.50	6.18	13.58	3.00	2.70	2.70	10.98

==========

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STA 6390+50

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 2-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	224.0
Culvert Slope (feet per foot).....	0.0089

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.2	0.50	1.32	0.17	1.06	0.96	1.06	4.10
12.8	0.60	1.58	0.43	1.27	1.14	1.27	4.48
16.9	0.70	1.86	0.78	1.49	1.31	1.49	4.81
21.7	0.80	2.16	1.28	1.74	1.50	1.74	5.11
27.1	0.90	2.48	1.94	2.02	1.68	2.02	5.36
33.1	1.00	2.83	2.82	2.38	1.87	2.38	5.50
39.8	1.10	3.23	3.97	3.00	2.05	2.05	7.72
47.2	1.20	3.81	5.47	3.00	2.24	2.24	8.35
55.2	1.30	4.38	7.33	3.00	2.41	2.41	9.07
64.0	1.40	5.18	9.69	3.00	2.57	2.57	9.93
73.6	1.50	6.18	12.63	3.00	2.70	2.70	10.98

==========

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A 6370+30, 6373+00, 6375+20, 6379+84, 6381+45, 6384+25, 6388+55, 6390+50, 6395+75, 6400+60

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0111
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	9.2	2.82	0.781	0.124	0.624	3.3	8.0
0.6	12.8	3.13	0.800	0.152	0.752	4.1	8.6
0.7	16.9	3.41	0.817	0.180	0.880	5.0	9.2
0.8	21.7	3.66	0.831	0.209	1.009	5.9	9.8
0.9	27.1	3.91	0.844	0.237	1.137	6.9	10.4
1.0	33.1	4.14	0.855	0.266	1.266	8.0	11.0
1.1	39.8	4.36	0.866	0.295	1.395	9.1	11.6
1.2	47.2	4.57	0.876	0.324	1.524	10.3	12.2
1.3	55.2	4.77	0.885	0.354	1.654	11.6	12.8
1.4	64.0	4.97	0.894	0.384	1.784	12.9	13.4
1.5	73.6	5.16	0.902	0.414	1.914	14.2	14.0
1.6	83.8	5.35	0.909	0.444	2.044	15.7	14.6
1.7	94.9	5.53	0.916	0.474	2.174	17.2	15.2

==========

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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(713) 895-8322. A manual with equations & flow chart is available.

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-18-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6395+75 2-36" CMP AT CP46-1

ELEVATION	VOLUME	DISCHARGE	DIVERT
1080.0	0	0	0
1081.58		26	0
1082.16		44	0
1082.84		66	0
1083.0 Top of Dike		71	0
1083.5		75	200
1084.0		80	563
1084.5		94	1033

C = 2.5 L = 225

at .5 Q = 200 cfs

at 1.0 Q = 563

at 1.5 Q = 1033

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-18-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6400+60 3-36" CMP AT CP46-1

ELEVATION	VOLUME	DISCHARGE	DIVERT
1078.36	0	0	0
1079.94		39	0
1080.52		66	0
1081.31		99	0
1082.44		120	0
1083.0 Top of Dike		128	0
1083.5		135	200
1083.9		141	480
1085.72		165	2523

C = 2.5 L = 225

at .5 Q = 200 cfs

at .9 Q = 480 cfs

at 2.72 Q = 2523 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-20-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

AT (P46-1)

COMBINED STORAGE - DISCHARGE FOR STA 6395+75, 6400+60
2-36" CMP 3-36" CMP

ELEVATION		VOLUME		DISCHARGE	DIVERT
1078.36	0	0		0	0
1080.0	1.31	1.07		39	0
1081.5	3.54	4.71		128	0
1082.0		6.9		156	
1082.5	5.93	9.0		183	0
					0
1083.0	Top of Dike 5.77	11.7		199	0
1083.5	6.95	14.88		210	400
1084.0	8.13	18.65	5.64	225	1126
1084.5	9.31	23.01	6.14	244	2066
1085.0		28.26		264	
1086.0		33.51		283	

Form 209

STA 6395 + 75

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 2-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	226.0
Culvert Slope (feet per foot).....	0.0088

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.2	0.50	1.32	0.18	1.07	0.96	1.07	4.07
12.8	0.60	1.58	0.44	1.28	1.14	1.28	4.43
16.9	0.70	1.86	0.79	1.50	1.31	1.50	4.79
21.7	0.80	2.16	1.29	1.75	1.50	1.75	5.09
27.1	0.90	2.48	1.96	2.03	1.68	2.03	5.33
33.1	1.00	2.83	2.84	2.40	1.87	1.87	7.16
39.8	1.10	3.23	4.00	3.00	2.05	2.05	7.72
47.2	1.20	3.81	5.50	3.00	2.24	2.24	8.35
55.2	1.30	4.38	7.38	3.00	2.41	2.41	9.07
64.0	1.40	5.18	9.76	3.00	2.57	2.57	9.93
73.6	1.50	6.18	12.71	3.00	2.70	2.70	10.98

==========

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STA 6400 + 60

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 3-36" CMP	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	217.0
Culvert Slope (feet per foot).....	0.0083

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.2	0.50	1.32	0.36	1.09	0.96	1.09	3.99
12.8	0.60	1.58	0.61	1.30	1.14	1.30	4.37
16.9	0.70	1.86	0.96	1.54	1.31	1.54	4.64
21.7	0.80	2.16	1.45	1.78	1.50	1.78	4.98
27.1	0.90	2.48	2.10	2.07	1.68	2.07	5.21
33.1	1.00	2.83	2.95	2.48	1.87	1.87	7.16
39.8	1.10	3.23	4.08	3.00	2.05	2.05	7.72
47.2	1.20	3.81	5.54	3.00	2.24	2.24	8.35
55.2	1.30	4.38	7.36	3.00	2.41	2.41	9.07
64.0	1.40	5.18	9.66	3.00	2.57	2.57	9.93
73.6	1.50	6.18	12.53	3.00	2.70	2.70	10.98

==========

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A 6370+30, 6373+00, 6375+20, 6379+84, 6381+45, 6384+25, 6388+55, 6390+50, 6395+75, 6400+60

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 17, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0111
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	5.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	9.2	2.82	0.781	0.124	0.624	3.3	8.0
0.6	12.8	3.13	0.800	0.152	0.752	4.1	8.6
0.7	16.9	3.41	0.817	0.180	0.880	5.0	9.2
0.8	21.7	3.66	0.831	0.209	1.009	5.9	9.8
0.9	27.1	3.91	0.844	0.237	1.137	6.9	10.4
1.0	33.1	4.14	0.855	0.266	1.266	8.0	11.0
1.1	39.8	4.36	0.866	0.295	1.395	9.1	11.6
1.2	47.2	4.57	0.876	0.324	1.524	10.3	12.2
1.3	55.2	4.77	0.885	0.354	1.654	11.6	12.8
1.4	64.0	4.97	0.894	0.384	1.784	12.9	13.4
1.5	73.6	5.16	0.902	0.414	1.914	14.2	14.0
1.6	83.8	5.35	0.909	0.444	2.044	15.7	14.6
1.7	94.9	5.53	0.916	0.474	2.174	17.2	15.2

==========

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-18-90

STAGE - STORAGE - DISCHARGE TABLE (I-10)

STA 6419+30 5-10'x4' BC's AT CP46

ELEVATION		VOLUME	DISCHARGE	DIVERT
1065.41	0	0	0	0
1068.42	0.72	1.08	730	0
1070.53	1.22	3.13	1460	0
1071.4	Top of Bank 1.43	4.28	1680	0
1072.0	1.57	5.18	1834	58
1073	3.14	7.54	2090	250
1074.3	5.2	12.96	2470	617

C = 25 L = 50

at .6 Q = 58 cfs

at 1.6 Q = 250 cfs

at 2.9 Q = 617

Form 209

STA 6419+30

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
July 13, 1990

==========

PROGRAM INPUT DATA:

DESCRIPTION 5-10'x4' BC'S	VALUE
Culvert Span (Width of Opening) (feet).....	10.00
Culvert Rise (Height of Opening) (feet).....	4.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	52.0
Culvert Slope (feet per foot).....	0.0055

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
146.3	1.00	3.01	2.99	1.47	1.88	1.47	9.98
292.8	1.50	5.12	4.57	2.34	2.99	2.34	12.52
484.4	2.00	8.89	7.44	3.33	4.00	3.33	14.56
714.0	2.50	15.51	11.80	4.00	4.00	4.00	17.85
988.0	3.00	26.73	19.20	4.00	4.00	4.00	24.70

==========

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STA 6419+ 30

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
July 13, 1990

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0091
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	30.0

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
1.0	146.3	4.43	0.816	0.305	1.305	33.0	36.0
1.5	292.8	5.66	0.866	0.497	1.997	51.7	39.0
2.0	482.4	6.70	0.902	0.697	2.697	72.0	42.0
2.5	714.0	7.62	0.930	0.901	3.401	93.8	45.0
3.0	988.0	8.44	0.953	1.107	4.107	117.0	48.0
3.5	1304.8	9.20	0.973	1.316	4.816	141.7	51.0
4.0	1665.2	9.91	0.990	1.526	5.526	168.0	54.0
4.5	2070.2	10.58	1.006	1.737	6.237	195.7	57.0

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986 Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092 (713) 895-8322. A manual with equations & flow chart is available.

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 10-28-91

STAGE - STORAGE - DISCHARGE TABLE

CP 138

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1047.9 * Weir	0	0	0
1048	.40	.02	18
1048.5	6.97	1.86	465
1049	19.67	8.52	1658
1050	29.20	32.96	8940

Weir Flow $Q = CLH^{3/2}$ $C = 2.5$

at 1048 $L = \frac{440}{2}$ $H = .1$ $Q = 2.5\left(\frac{440}{2}\right)(.1)^{3/2} = 18$

at 1048.5 $L = \frac{800}{2}$ $H = .6$ $Q = 2.5\left(\frac{800}{2}\right)(.6)^{3/2} = 465$

at 1049 $L = \frac{1150}{2}$ $H = 1.1$ $Q = 2.5\,\frac{1150}{2}(1.1)^{3/2} = 1658$

at 1050 $L = \frac{2350}{2}$ $H = 2.1$ $Q = 2.5\,\frac{2350}{2}(2.1)^{3/2} = 8940$

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 10-28-91

STAGE - STORAGE - DISCHARGE TABLE

CP 139

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1046.2	0	0	0
1047.2 * Weir Flow	2.27	1.14	0
1047.5		3.12	170
1048	10.95	6.43	1037
1049	34.89	29.35	5977

Weir Flow $Q = CLH^{3/2}$ $C = 2.5$

at 1047.5 $L = 315 + \frac{200}{2} = 415$ $H = .3$ $Q = 2.5(415)(.3)^{3/2} = 170$

at 1048 $L = 315 + \frac{530}{2} = 580$ $H = .8$ $Q = 2.5(580)(.8)^{3/2} = 1037$

at 1049 $L = 315 + \frac{1350}{2} = 990$ $H = 1.8$ $Q = 2.5\ 990(1.8)^{3/2} = 5977$

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-12-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 212

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1077.1	0	0	0
	2.48		
1078	5.5	2.48	0
	11.26		
1079.4 x Weir Flow	10.58	13.74	0
	12.44		
1080	30.89	26.18	483
	37.15		
1081	43.41	63.33	6314

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 8 1/2
H = 1.6

Q at 1080 = 483 cfs

Q at 1081 = 6314 cfs

L = 2 1/2
H = 1.6

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-12-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 221A

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1077.0	0	0	0
	1.31		
1078	2.61	1.31	0
	6.73		
1078.9 * Weir Flow	12.34	8.04	0
	20.12		
1080	24.24	28.16	2250 cfs
1080.5		40.0	5262 cfs
		Weir Flow	C = 2.6
		$Q = CLH^{3/2}$	L = 150/2
			H = 1.1
		Q at 1080 = 2250 cfs	
		Q at 1080.5 =	L = 200/2
			H = 1.6

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject White Tanks / Agua Fria ADMS Prepared by G. AOUAD Date 10/3/91

Stage Storage - Discharge Table

Subbasin (225) Litchfield Park Detention Facility

	ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	Q_{pipe} (CFS) 1-42" x 100'	Q_{weir} (CFS)	Q_{Total} (CFS)
Pipes Inv.	1058.8 *	0	0	0	0	0
	1059	1.54	.15	2	0	2
	1060	7.17 (4.36)	4.51	7	0	7
	1061	14.52 (10.84)	15.36	15	0	15
	1062	20.40 (17.46)	32.82	43	0	43
	1064	21.53 (41.93)	74.75	82	0	82
	1066	22.66 (44.19)	118.94	110	0	110
weir Elev.	1066.5 *	24.87 (11.38)	136.82	116	0	116
	1067	26.08 (12.74)	143.56	122	1237	1359
	1068	33.79 (24.74)	173.50	124	6430	6554

$Q_{weir} = C L H^{3/2}$; $C = 2.5$, $L = 1400'$

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
October 3, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	3.50
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	100.0
Culvert Slope (feet per foot).....	0.0020

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
14.6	0.45	1.61	2.20✓	1.31	1.16	1.16	5.22
43.3	0.80	3.10	3.20✓	2.57	2.05	2.05	7.39
81.7	1.10	5.21	5.20✓	3.50	2.82	3.50	8.49
110.1	1.35	7.56	7.20✓	3.50	3.17	3.50	11.44
116.4	1.40	8.17	7.70✓	3.50	3.22	3.50	12.10
122.3	1.45	8.78	8.20✓	3.50	3.26	3.50	12.71
133.6	1.50	10.02	9.20✓	3.50	3.33	3.50	13.89
144.1	1.55	11.27	10.20	3.50	3.37	3.50	14.98

==========

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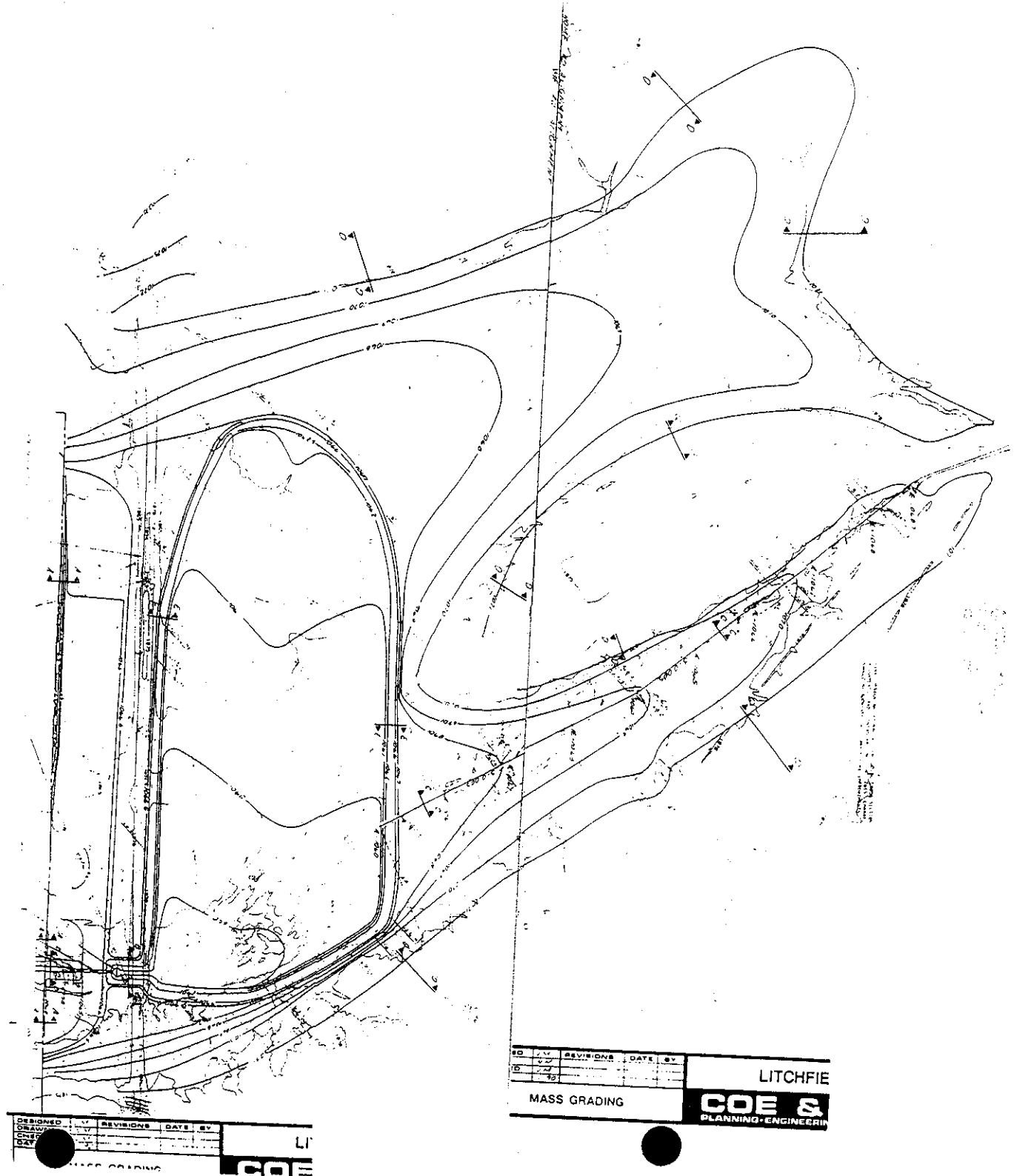
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PLANNING · ENGINEERIN

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

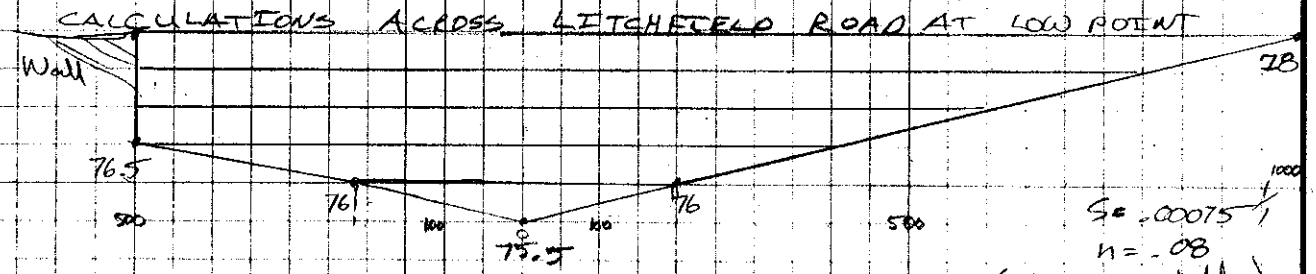
Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 10-25-91

STAGE - STORAGE - DISCHARGE TABLE

CP 226

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1075.2	0	0	0
	.24		
1075.5 Out Flow Elev.	1.6	0.24	0
	3.1		
1076.0	10.8	3.34	21
	14.7		
1076.5	48.1	18.04	136
	33.4		
1077.0	85.3	51.44	428
	51.4		
1077.5	120.3	102.84	875
	68.9		
1078.0	155.3	171.74	1487

DISCHARGE RELATIONSHIP CALCULATED FROM NORMAL DEPTH CALCULATIONS ACROSS LITCHFIELD ROAD AT LOW POINT



$S = .00075$ 1/1000

$n = .08$

(Assumes some buildings restricting flow)

Q at 1076 $\frac{1.49}{.08} 105 \left(\frac{105}{920}\right)^{2/3} (.00075)^{1/2}$ Q = 21 cfs

Q at 1076.5 $\frac{1.49}{.08} 435 \left(\frac{435}{900}\right)^{2/3} (.00075)^{1/2}$ Q = 136 cfs

Q at 1077 $\frac{1.49}{.08} 935 \left(\frac{935}{1100}\right)^{2/3} (.00075)^{1/2}$ Q = 428 cfs

Q at 1077.5 $\frac{1.49}{.08} 1535 \left(\frac{1535}{1300}\right)^{2/3} (.00075)^{1/2}$ Q = 875 cfs

Q at 1078 $\frac{1.49}{.08} 2235 \left(\frac{2235}{1500}\right)^{2/3} (.00075)^{1/2}$ Q = 1487 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-12-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (241) BULLARD WASH AND CAMELBACK ROAD
4-52" CP's Invert 1042.2' Top of Road = 1046.3
S = .0033'/'

ELEV. (FT)		AREA (AC)		VOLUME (AC-FT)		DISCHARGE (CFS)
1042.2 * Invert		0		0		0
	1.8		.09			
1044		.10		.09		4
	3.8		.56			
1046		.46		.65		280
	4.1		.29			
1046.3 * Weir Flow		1.49		.94		324
			7.51			
1043	4.0	7.35		8.45	476 + 1297 =	1773
			8.49			
1049	6.0	9.64		16.94	584 + 6921 =	7505

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 450/2
H = 1.7

Q at 1043 = 1297 cfs

L = 1200/2
H = 2.7

Q at 1049 = 6921 cfs

Form 209

PIPE CULVERT ANALYSIS

COMPUTATION OF CULVERT PERFORMANCE CURVE

Culvert Diameter (feet)	4.33
FHWA Chart Number (1,2 or 3)	1
Scale Number on Chart (Type of Culvert Entrance)	1
Manning's Roughness Coefficient (n-value)	.0123
Entrance Loss Coefficient of Culvert Opening	0.5
Culvert Length (feet)	60
Culvert Slope (feet per foot)	.0033

*** RESULTS ***

Flow Rate (cfs)	Tailwater Depth(ft)	..Headwater (ft).. In.Ctrl.	Out.Ctrl.	Normal Depth(ft)	Critical Depth(ft)	Depth at Outlet(ft)	Outlet Vel.(fps)
4.00	0.50	0.76	2.25	0.57	0.57	0.57	3.53
70.00	3.20	3.70	3.81	2.54	2.47	3.20	6.00
81.00	3.20	4.09	4.12	2.80	2.66	3.20	6.94
119.00	4.20	5.58	5.76	4.33	3.24	4.20	8.15
146.00	4.33	6.81	6.78	4.33	3.57	4.33	9.91

Enter Flow Rate and Tailwater, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
February 12, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0033
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	10.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	9.4	1.64	0.434	0.042	0.542	5.8	13.0
0.8	21.4	2.15	0.464	0.072	0.872	9.9	14.8
1.0	31.8	2.44	0.478	0.093	1.093	13.0	16.0
1.4	58.6	2.95	0.500	0.135	1.535	19.9	18.4
1.6	75.1	3.17	0.509	0.156	1.756	23.7	19.6
1.7	84.2	3.28	0.513	0.167	1.867	25.7	20.2
1.8	93.8	3.38	0.516	0.178	1.978	27.7	20.8
1.9	103.9	3.48	0.520	0.188	2.088	29.8	21.4
2.0	114.6	3.58	0.524	0.199	2.199	32.0	22.0
2.2	137.8	3.77	0.530	0.221	2.421	36.5	23.2
2.5	177.0	4.05	0.539	0.254	2.754	43.8	25.0
2.8	221.7	4.30	0.547	0.287	3.087	51.5	26.8
3.0	254.6	4.47	0.552	0.310	3.310	57.0	28.0
3.5	348.8	4.86	0.563	0.367	3.867	71.7	31.0
3.8	413.6	5.09	0.569	0.402	4.202	81.3	32.8

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TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-12-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 253 BULLARD WASH AND INDIAN SCHOOL ROAD
2-8'x4' BC'S Invert = 1021.1 Top of Road = 1025.3
S ~ .0025 ft/ft

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1021.1 x Pipe Invert	0	0	0
.8	.045		
1022	.1	.045	2
2.9	3.54		
1024	3.44	3.58	190
4.2	12.72		
1025.3 x Weir Flow	16.13	16.31	380
4.9	13.68		
1026	22.96	29.98	460 + 685 = 1145
5.4	13.48		
1026.5	30.99	43.46	484 + 3247 = 3731
	17.50	60.96	484 + 6339 = 6823
1027.0	39.0		

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 900/2
H = .7

Q at 1026 = 685 cfs

Q at 1026.5 = 3247 cfs

L = 1700/2
H = 1.2

Q at 1027.0 =

L = 2200/2
H = 1.7

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 12, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	8.00
Culvert Rise (Height of Opening) (feet).....	4.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	60.0
Culvert Slope (feet per foot).....	0.0025

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
1.0	0.50	0.12	1.89	0.10	0.08	0.50	0.25
95.0	1.80	2.61	2.90	1.70	1.64	1.80	6.60
165.0	2.65	3.81	3.72	2.50	2.36	2.50	8.25
230.0	3.10	4.96	4.67	3.17	2.95	3.17	9.06
242.0	3.20	5.37	4.86	3.29	3.05	3.29	9.18

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TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
February 12, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0033
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	20.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	18.3	1.71	0.440	0.045	0.545	10.7	23.0
1.0	59.8	2.60	0.487	0.105	1.105	23.0	26.0
1.5	121.1	3.30	0.516	0.169	1.669	36.7	29.0
2.0	201.8	3.88	0.536	0.234	2.234	52.0	32.0
2.5	302.2	4.40	0.553	0.300	2.800	68.8	35.0
3.0	422.8	4.86	0.566	0.367	3.367	87.0	38.0
3.5	564.5	5.29	0.578	0.434	3.934	106.7	41.0
4.0	728.0	5.69	0.588	0.502	4.502	128.0	44.0
4.5	914.1	6.06	0.597	0.571	5.071	150.7	47.0
5.0	1123.7	6.42	0.605	0.640	5.640	175.0	50.0
5.5	1357.7	6.76	0.612	0.710	6.210	200.7	53.0
6.0	1616.9	7.09	0.619	0.781	6.781	228.0	56.0

==========

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-21-91

STAGE- STORAGE- DISCHARGE TABLE

SUBBASIN 25B

ELEV. (FT)	AREA (AC.)		VOLUME (AC-FT)	DISCHARGE (CFS)
967	0		0	0
		19.92		
970	5.69		19.92	0
		115		
980	17.31		134.9	0
		265.6		
990	35.81		400.5	0
		399.1		
1000	44.0		799.6	0
		473		
1010	50.6		1272.6	0
		401.2		
1017 * Weir Flow	64.03		1673.8	0
		200.7		
1020	69.79		1874.5	3377

* Weir Flow

$Q = CLH^{3/2}$

$C = 2.6$
$L = 500/2 = 250$
$H = 3$

Q at 1020 = 3377

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-21-91

STAGE-STORAGE-DISCHARGE TABLE

SUBBASIN 259

ELEV. (FT)	AREA (AC.)		VOLUME (AC-FT)	DISCHARGE (CFS)
1009	0		0	0
		3.98		
1010	7.97		3.98	0
		39.85		
1012	31.88		43.83	0
		86.39		
1014	54.51		130.22	0
		60.22		
1015	65.93		190.44	0
		53.38		
1015.2 * Weir Flow	67.52		243.82	0
		56.56		
1016	73.87		300.38	651

Weir Flow $Q = CLH^{3/2}$

C = 2.6
L = 700/2
H = .8

Q at 1016 = 651

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-21-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 268

ELEV. (FT)	AREA (AC.)		VOLUME (AC-FT)	DISCHARGE (CFS)
1008.3	0		0	0
		7.04		
1009.3 x Weir Flow	7.07		7.04	0
		39.81		
1011	32.76		46.85	288
		45.23		
1012	57.70		92.08	3172
		31.93		
1012.5	70.0		124.01	8930

Weir Flow
$Q = CLH^{3/2}$ C = 2.6 H = 1.7 L = 100/2

Q at 1011 = 288 cfs

C = 2.6 H = 2.7 L = 550/2

Q at 1012 = 3172 cfs

Q at 1012.5 = 8930 cfs L = 1200/2
H = 3.2

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-21-92

STAGE-STORAGE-DISCHARGE TABLE

SUBBASIN 269

ELEV. (FT)	AREA (AC.)	VOLUME (AC-FT)	DISCHARGE (CFS)
1008.5	0	0	0
	14.03		
1010	18.73	14.03	0
	66.41		
1011.9 * Weir Flow	51.17	80.44	0
	22.78		
1012.3	62.75	103.22	625
	51.02		
1013.0	83.01	154.24	7172

Weir Flow
$Q = CLH^{3/2}$

C=2.6
L=1900/2
H=.4

Q at 1012.3 = 625 cfs

C=2.6
L=4500
H=.7

Q at 1013.0 = 6548+625
=

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-21-92

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 270

ELEV (FT)	AREA (AC.)	VOLUME (AC-FT)	DISCHARGE (CFS)
1011.4	0	0	0
	2.24		
1012	7.46	2.24	0
	5.51		
1012.5 * Weir Flow Over Canal	14.56	7.75	0
	5.10		
1012.8	19.47	12.85	470
	13.88		
1013.5	29.18	26.73	3830

Weir Flow Over Canal
$Q = CLH^{3/2}$
H = .3 L = 1100 C = 2.6
Q at 192.8 = 470 cfs
H = 1.0 L = 1400 C = 2.6
Q at 1013.5 = 3640 cfs

Weir Flow West Over Litchfield Road
$Q = CLH^{3/2}$
H = .7 L = 250/2 C = 2.6
Q at 1012.5 = 190 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 1-21-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 271 A

ELEV. (FT)	AREA (AC.)	VOLUME (AC-FT)	DISCHARGE (CFS)
1017.9	0	0	0
1018	1.23	.06	7
1018.3	4.83	0.97	247
1018.4	6.03	1.51	460

Weir Flow Over Dysart Road $Q = CLH^{3/2}$

Q at 1018 C = 2.6 L = 200/2 H = .1 Q = 7 cfs

Q at 1018.3 C = 2.6 L = 750/2 H = .4 Q = 247 cfs

Q at 1018.4 C = 2.6 L = 1000/2 H = .5 Q = 460 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-21-91

STAGE- STORAGE- DISCHARGE TABLE

SUBBASIN 271

ELEV. (FT)		AREA (AC.)		VOLUME (AC-FT)	DISCHARGE (CFS)
1008.1		0		0	0
			1.81		
1010		1.91		1.81	0
			21.88		
1014		9.03		23.69	0
			4.29		
1014.3	* Weir Flow Over Canal	19.61		27.98	0
			7.47		
1014.6	Flow West Along Canal	30.19		35.45	384
			18.24		
1014.7				40.01	658
1014.8				44.57	1104
1014.9				49.13	1621
1015		61.0		53.69	2243

Weir Flow Over Canal

$Q = CLH^{3/2}$

$C = 2.6$

$L = 1800/2$

$H = .3$

Weir Flow West Along Canal

$Q = CLH^{3/2}$

Q at 1014.6 = 384 cfs
H = .3 L = 1800/2

Q at 1014.7 = 625 cfs
H = .4 L = 1900/2

Q at 1014.8 1011 cfs
H = .5 L = 2200/2

Q at 1014.9 1450 cfs
H = .6 2400/2

Q at 1015.0 1980 cfs
H = .7 L = 2600/2

Q at 1014.7 Q = 33 cfs
H = .1 L = 400

Q at 1014.8 Q = 93 cfs
H = .2 L = 400

Q at 1014.9 Q = 171 cfs
H = .3 L = 400

Q at 1015 = 263 cfs
H = .4 L = 400

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-21-91

STAGE- STORAGE- DISCHARGE TABLE

SUBBASIN 271C

ELEV. (FT)	AREA (AC.)		VOLUME (AC-FT)	DISCHARGE (CFS)
999	0		0	0
		.15		
1000	.30		.15	0
		5.08		
1005	1.73		5.23	0
		14.88		
1010	4.22		20.11	0
		6.94		
1011.4 * Weir Flow	5.69		27.05	0
		3.92		
1012	7.38		30.97	205

Weir Flow $Q = CLH^{3/2}$

$C = 2.6$
$L = 340/2$
$H = .6$

Q at 1012 = 205

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-21-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 272

ELEV. (FT)	AREA (AC.)		VOLUME (AC-FT)	DISCHARGE (CFS)
960	0		0	0
		6.05		
970	1.21		6.05	0
		16.5		
980	2.09		22.55	0
		28.65		
990	3.64		51.2	0
		76.8		
1000	11.72		128	0
		937.4		
1010	82.02		1065.4	0
		67.18		
1010.8 x Weir Flow	85.94		1132.58	0
		106.7		
1012	91.83		1239.28	1196

Weir Flow $Q = CLH^{3/2}$

C = 2.6
L = 700/2 = 350
H = 1.2

Q at 1012 = 1196 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 273

5-10 x 3 BC S=.008 L=273

ELEV. (FT)	AREA (AC)		VOLUME (AC-FT)	DISCHARGE (CFS)
1053.6	0		0	0
		.022		
1054	.11		.022	40
		1.58		
1056	1.47		1.60	525
		2.22		
1057 * Weir Flow Equal	2.98		3.82	850
		4.09		
1058	5.21	3.80	7.92	650 + 850 = 1700
1058.5	10.0		11.72	650 + 1910 = 2560

Weir Flow $Q = CLH^{3/2}$

C = 2.6
L = 500/2
H = 1.0

Q at 1058 = 650 cfs

Q at 1058.5 = 1910

L = 800/2
H = 1.5

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 29, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	10.00
Culvert Rise (Height of Opening) (feet).....	3.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	223.0
Culvert Slope (feet per foot).....	0.0080

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.0	0.27	0.42	-0.15	0.21	0.27	0.21	3.81
105.0	1.51	2.42	0.90	1.04	1.51	1.04	10.05
170.0	2.08	3.37	1.89	1.43	2.08	1.43	11.89
210.0	2.39	4.32	2.64	1.65	2.39	1.65	12.77

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 274
Perryville Rd. Bridge BW= 68' SS=2:1 S=.0167 L=[illegible]

ELEV. (FT)	AREA (AC)		VOLUME (AC-FT)	DISCHARGE (CFS)
1043.5	0		0	0
		.08		
1044	.53		.08	40
		1.47		
1046	1.14		1.55	665
		1.66		
1047 c weir flow left	2.17		3.21	1100
		2.38		
1048	2.5		5.54	390 + 1100 = 1490

Weir Flow Q = CLH^3/2
C = 2.6 L = 300/2 H = 1.0
@ 1048 Q = 390 cfs

Form 209

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION
January 29, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Flow Rate (cubic feet per second).....	40.0
Channel Bottom Slope (feet per foot).....	0.0167
Manning`s Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	2.00
Channel Side Slope - Right Side (horizontal/vertical)...	2.00
Channel Bottom Width (feet).....	20.0

PROGRAM RESULTS:

DESCRIPTION	VALUE
Normal Depth (feet).....	0.49
Flow Velocity (feet per second).....	3.86
Froude Number (Flow is Sub-Critical).....	0.989
Velocity Head (feet).....	0.23
Energy Head (feet).....	0.73
Cross-Sectional Area of Flow (square feet).....	10.37
Top Width of Flow (feet).....	21.98

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION
January 29, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Flow Rate (cubic feet per second).....	625.0
Channel Bottom Slope (feet per foot).....	0.0167
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	2.00
Channel Side Slope - Right Side (horizontal/vertical)...	2.00
Channel Bottom Width (feet).....	30.0

PROGRAM RESULTS:

DESCRIPTION	VALUE
Normal Depth (feet).....	1.99
Flow Velocity (feet per second).....	9.25
Froude Number (Flow is Super-Critical).....	1.221
Velocity Head (feet).....	1.33
Energy Head (feet).....	3.32
Cross-Sectional Area of Flow (square feet).....	67.58
Top Width of Flow (feet).....	37.96

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION
January 29, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Flow Rate (cubic feet per second).....	435.0
Channel Bottom Slope (feet per foot).....	0.0167
Manning's Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	2.00
Channel Side Slope - Right Side (horizontal/vertical)...	2.00
Channel Bottom Width (feet).....	68.0

PROGRAM RESULTS:

DESCRIPTION	VALUE
Normal Depth (feet).....	1.00
Flow Velocity (feet per second).....	6.24
Froude Number (Flow is Super-Critical).....	1.118
Velocity Head (feet).....	0.60
Energy Head (feet).....	1.60
Cross-Sectional Area of Flow (square feet).....	69.69
Top Width of Flow (feet).....	71.98

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-25-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 275
4-36" RCP

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1037.63	0	0	0
2.37	3.47		
1040	2.93	3.47	100
3.97	7.09		
1041.5	6.52	10.56	188
4.37	3.56		
1042	7.71	14.12	216+28 = 244
5.37	9.14		
1043	10.57	23.26	260 + 1043 = 1303

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 30
H = .5

Q at 1042 = 28 cfs

Q at 1043 = 1313 cfs

C = 2.6
L = 550 1/2
H = 1.5

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 25, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	256.0
Culvert Slope (feet per foot).....	0.0067

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
25.0	1.61	2.38	1.19	1.36	1.61	1.36	8.01
47.0	2.23	3.84	3.01	2.02	2.23	2.02	9.28
54.0	2.39	4.33	3.76	2.25	2.39	2.25	9.49
65.0	2.59	5.38	5.11	3.00	2.59	3.00	9.20

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-25-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 276
3-36" CMP

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1032.96 * Invert	0	0	0
1.04 3-36" CMP	.23		
1034	.44	.23	18
2.54	1.14		
1035.5 * Weir Flow	1.08	1.37	75
3.04 East	.60		
1036	1.29	1.97	87+28 = 115
4.04	2.65		
1037	1.36	4.62	108+955 = 1063

* Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 30
H = .5

Q at 1036 = 28 cfs

C = 2.6
L = 400/2
H = 1.5

Q at 1037 = 955 cfs

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 25, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	206.0
Culvert Slope (feet per foot).....	0.0049

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
6.0	0.77	1.05	0.95	0.99	0.77	0.99	2.93
25.0	1.61	2.36	2.57	2.43	1.61	1.61	6.46
29.0	1.74	2.59	3.07	3.00	1.74	1.74	6.81
36.0	1.95	3.00	4.10	3.00	1.95	1.95	7.40

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-25-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 277
Citrus Rd Bridge BW=68' SS=2:1 S=.0105 L=165'

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1022.1	0	0	0
1.9	.22		
1024	.23	.22	255
2.9	3.24		
1026	3.01	3.46	525
5.2	7.37		
1027.3 * Weir Flow	3.33	10.83	2380
5.9	6.94		
1028.0	11.20	17.67	6D+2800 = 3410

Weir Flow
$Q = CLH^{3/2}$
Q = 610 cfs

C = 2.6
L = 80/2
H = .7

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 25, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	10.00
Culvert Rise (Height of Opening) (feet).....	10.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0180
Entrance Loss Coefficient of Culvert Opening.....	0.05
Culvert Length (feet).....	165.0
Culvert Slope (feet per foot).....	0.0105

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
75.0	1.00	1.87	3.88	1.00	1.20	1.20	6.23
340.0	2.74	5.23	5.19	2.74	3.30	2.74	12.39
400.0	3.08	5.84	5.48	3.08	3.68	3.08	13.00

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-24-91

STAGE- STORAGE- DISCHARGE TABLE

SUBBASIN 279
2-36" CMP

ELEV. (FT)	AREA (AC.)		VOLUME (AC-FT)		DISCHARGE (CFS)
				Pipe + Flow South + Flow East	
* 1009.2 Invert Flow 2-36" CMP	0		0	0 + 0 + 0 =	0
		.08			
1012	.06		.08	36 + 0 + 0 =	36
		.51			
1013.9 * Weir Flow East	.45		.59	53 + 78 + 0 =	131
		.57			
1014.5	.84		1.16	56 + 250 + 151 =	457
		1.08			
1015	2.5		2.25	62 + 500 + 525 =	1087
		5.25			
1016	8.0		7.5	68 + 1370 + 2374 =	3812
		5.75			
1016.5	15.0		13.25	72 + 2020 + 3815 =	5907

Weir Flow
TO THE EAST

Q at 1014.5
$Q = CLH^{3/2}$
Q = 151 cfs

C = 2.6
L = 250/2
H = .6

Q at 1015
Q = 575 cfs

L = 350/2
H = 1.1

Q at 1016
Q = 2374 cfs

L = 600/2
H = 2.1

Q at 1016.5
Q = 3815 cfs

L = 700/2
H = 2.6

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE

Culvert Diameter (feet)	3
FHWA Chart Number (1,2 or 3)	2
Scale Number on Chart (Type of Culvert Entrance)	1
Manning's Roughness Coefficient (n-value)	0.024
Entrance Loss Coefficient of Culvert Opening	0.5
Culvert Length (feet)	538
Culvert Slope (feet per foot)	.0018

*** RESULTS ***

Flow Rate (cfs)	Tailwater Depth(ft)	..Headwater (ft).. In.Ctrl.	Out.Ctrl.	Normal Depth(ft)	Critical Depth(ft)	Depth at Outlet(ft)	Outlet Vel.(fps)
10.00	1.00	1.38	1.49	1.77	1.00	1.00	4.85
20.00	1.43	2.05	3.07	3.00	1.43	1.43	5.99
30.00	1.77	2.65	5.53	3.00	1.77	1.77	6.89
35.00	1.92	2.94	7.08	3.00	1.92	1.92	7.32
40.00	2.06	3.24	8.86	3.00	2.06	2.06	7.73

Enter Flow Rate and Tailwater, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

Flow Rate (cubic feet per second)	78
Channel Bottom Slope (feet per foot)	.0026
Manning's Roughness Coefficient (n-value)	.02
Channel Side Slope - Left Side (horizontal/vertical)	50
Channel Side Slope - Right Side (horizontal/vertical)	2
Channel Bottom Width (feet)	5

*** RESULTS ***

NORMAL DEPTH (FEET)	1.00
Flow Velocity (feet per second)	2.52
Froude Number	0.602
Velocity Head (feet)	0.10
Energy Head (feet)	1.10
Cross-Sectional Area of Flow (square feet)	30.98
Top Width of Flow (feet)	56.98

<Enter>: Repeat, <R>eport, or <Esc>: End

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

Flow Rate (cubic feet per second)	295
Channel Bottom Slope (feet per foot)	.0026
Manning's Roughness Coefficient (n-value)	.02
Channel Side Slope - Left Side (horizontal/vertical)	50
Channel Side Slope - Right Side (horizontal/vertical)	2
Channel Bottom Width (feet)	5

*** RESULTS ***

NORMAL DEPTH (FEET)	1.70
Flow Velocity (feet per second)	3.51
Froude Number	0.653
Velocity Head (feet)	0.19
Energy Head (feet)	1.90
Cross-Sectional Area of Flow (square feet)	84.00
Top Width of Flow (feet)	93.60

<Enter>: Repeat, <R>eport, or <Esc>: End

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

Flow Rate (cubic feet per second)	250
Channel Bottom Slope (feet per foot)	.0026
Manning's Roughness Coefficient (n-value)	.02
Channel Side Slope - Left Side (horizontal/vertical)	50
Channel Side Slope - Right Side (horizontal/vertical)	2
Channel Bottom Width (feet)	5

*** RESULTS ***

NORMAL DEPTH (FEET)	1.60
Flow Velocity (feet per second)	3.37
Froude Number	0.647
Velocity Head (feet)	0.18
Energy Head (feet)	1.77
Cross-Sectional Area of Flow (square feet)	74.19
Top Width of Flow (feet)	87.98

(Enter): Repeat, (R)eport, or (Esc): End

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

Flow Rate (cubic feet per second)	500
Channel Bottom Slope (feet per foot)	.0026
Manning's Roughness Coefficient (n-value)	.02
Channel Side Slope - Left Side (horizontal/vertical)	50
Channel Side Slope - Right Side (horizontal/vertical)	2
Channel Bottom Width (feet)	5

*** RESULTS ***

NORMAL DEPTH (FEET)	2.10
Flow Velocity (feet per second)	4.01
Froude Number	0.675
Velocity Head (feet)	0.25
Energy Head (feet)	2.35
Cross-Sectional Area of Flow (square feet)	124.80
Top Width of Flow (feet)	114.04

(Enter): Repeat, (R)eport, or (Esc): End

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

Flow Rate (cubic feet per second)	1370
Channel Bottom Slope (feet per foot)	.0026
Manning's Roughness Coefficient (n-value)	.02
Channel Side Slope - Left Side (horizontal/vertical)	50
Channel Side Slope - Right Side (horizontal/vertical)	2
Channel Bottom Width (feet)	5

*** RESULTS ***

NORMAL DEPTH (FEET)	3.10
Flow Velocity (feet per second)	5.16
Froude Number	0.720
Velocity Head (feet)	0.41
Energy Head (feet)	3.51
Cross-Sectional Area of Flow (square feet)	265.32
Top Width of Flow (feet)	166.19

(Enter): Repeat, (R)eport, or (Esc): End

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

Flow Rate (cubic feet per second)	2020
Channel Bottom Slope (feet per foot)	.0026
Manning's Roughness Coefficient (n-value)	.02
Channel Side Slope - Left Side (horizontal/vertical)	50
Channel Side Slope - Right Side (horizontal/vertical)	2
Channel Bottom Width (feet)	5

*** RESULTS ***

NORMAL DEPTH (FEET)	3.60
Flow Velocity (feet per second)	5.69
Froude Number	0.737
Velocity Head (feet)	0.50
Energy Head (feet)	4.10
Cross-Sectional Area of Flow (square feet)	355.30
Top Width of Flow (feet)	192.29

(Enter): Repeat, (R)eport, or (Esc): End

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-24-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 279A
5-29"x45" HERCP 1-24" CMP

ELEV. (FT)	AREA (AC.)	VOLUME (AC-FT)	DISCHARGE (CFS)
* 1012.5 Invert 24" CMP	0	0	0
2.43	1.04		
* 1014.93 Invert 5-29"x45"	.86	1.04	22
1.07 HERCP	1.12		
1016	1.24	2.16	50+29 = 79
1.0	5.81		
1017 * Weir Flow	10.37	7.97	143+34 = 177
1.0 East	14.94		
1018	19.5	22.91	220+38+195 = 453

Weir Flow $Q = CLH^{3/2}$ C = 2.6, L = 150/2, H = 1.0

Q @ 1018 = 195 cfs

Form 209

CURRENT DATE: 01-23-1991
CURRENT TIME: 03:47:57

FILE DATE: 01-23-1991
FILE NAME: WT2

FHWA CULVERT ANALYSIS
HY-8, VERSION 3.2

C U L V	SITE DATA INLET ELEV. (FT)	OUTLET ELEV. (FT)	CULVERT LENGTH (FT)	BARRELS SHAPE MATERIAL	CULVERT SHAPE, MATERIAL, INLET SPAN (FT)	RISE (FT)	MANNING n	INLET TYPE
1	1014.93	1013.85	269.00	5 RCPE	3.75	2.42	.012	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (CFS) FILE: WT2 DATE: 01-23-1991

ELEV (FT)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
1014.93	0	0	0	0	0	0	0	0	1
1016.05	50	50	0	0	0	0	0	0	1
1016.64	100	100	0	0	0	0	0	0	1
1017.10	150	143	0	0	0	0	0	6	6
1017.32	200	164	0	0	0	0	0	35	4
1017.50	250	180	0	0	0	0	0	68	3
1017.66	300	194	0	0	0	0	0	105	3
1017.81	350	207	0	0	0	0	0	142	3
1017.95	400	218	0	0	0	0	0	181	3
1018.09	450	229	0	0	0	0	0	221	3
1018.22	500	238	0	0	0	0	0	261	3
1017.00	134	134	0	0	0	0	0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: WT2 DATE: 01-23-1991

HEAD ELEV(FT)	HEAD ERROR(FT)	TOTAL FLOW(CFS)	FLOW ERROR(CFS)	% FLOW ERROR
1014.93	0.00	0	0	0.00
1016.05	0.00	50	0	0.00
1016.64	0.00	100	0	0.00
1017.10	-0.01	150	1	0.34
1017.32	-0.00	200	1	0.40
1017.50	-0.01	250	2	0.74
1017.66	-0.00	300	1	0.42
1017.81	-0.00	350	1	0.32
1017.95	-0.00	400	1	0.17
1018.09	-0.00	450	1	0.11
1018.22	-0.00	500	0	0.08

<1> TOLERANCE (FT) = 0.010 <2> TOLERANCE (%) = 1.000

ENT DATE: 01-23-1991
CURRENT TIME: 03:47:57

FILE DATE: 01-23-1991
FILE NAME: WT2

CULVERT # 1

PERFORMANCE CURVE FOR 5 BARREL(S)

Q (cfs)	HWE (ft)	TWE (ft)	ICH (ft)	OCH (ft)	FLOW TYPE	CCE (ft)	FCE (ft)	TCE (ft)	VO (fps)
0	1014.93	1005.67	0.00	-1.08	0-NF	0.00	1014.93	0.00	0.00
50	1016.05	1005.97	1.12	0.63	4-FF	0.00	0.00	0.00	5.00
100	1016.64	1006.12	1.71	1.09	4-FF	0.00	0.00	0.00	6.14
143	1017.10	1006.24	2.17	1.60	4-FF	0.00	0.00	0.00	6.81
164	1017.31	1006.34	2.38	1.88	4-FF	0.00	0.00	0.00	7.05
180	1017.49	1006.44	2.56	2.12	4-FF	0.00	0.00	0.00	7.22
194	1017.66	1006.53	2.73	2.35	4-FF	0.00	0.00	0.00	7.35
207	1017.80	1006.61	2.87	2.56	4-FF	0.00	0.00	0.00	7.45
218	1017.95	1006.68	3.02	2.77	4-FF	0.00	0.00	0.00	7.53
229	1018.09	1006.76	3.16	2.96	4-FF	0.00	0.00	0.00	7.64
238	1018.21	1006.82	3.28	3.14	4-FF	0.00	0.00	0.00	7.78

El. inlet face invert 1014.93 ft El. outlet invert 1013.85 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION (FT)	0.00
INLET ELEVATION (FT)	1014.93
OUTLET STATION (FT)	269.00
OUTLET ELEVATION (FT)	1013.85
NUMBER OF BARRELS	5.00
SLOPE (V-FT/H-FT)	0.0040
CULVERT LENGTH ALONG SLOPE (FT)	269.00

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	ELLIPTICAL
BARREL SPAN	45.00 FT
BARREL RISE	29.00 FT
BARREL MATERIAL	CONCRETE
BARREL MANNING'S N	0.012
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	SQ. EDGE WITH HEADWALL
INLET DEPRESSION	NONE

CURRENT DATE: 01-23-1991
CURRENT TIME: 03:47:57

FILE DATE: 01-23-1991
FILE NAME: WT2

TAILWATER

******* REGULAR CHANNEL CROSS SECTION **********

BOTTOM WIDTH (FT)	100.00
SIDE SLOPE H/V (X:1)	%10.0
CHANNEL SLOPE V/H (FT/FT)	0.006
MANNING'S N (.01-0.1)	0.030
CHANNEL INVERT ELEVATION (FT)	1005.67
CULVERT NO.1 OUTLET INVERT ELEVATION	1013.85 FT

******* UNIFORM FLOW RATING CURVE FOR DOWNSTREAM CHANNEL

FLOW (CFS)	W.S.E. (FT)	FROUDE NUMBER	VEL. (FPS)	SHEAR (PSF)
0.00	1005.67	0.000	0.00	0.00
50.00	1005.97	0.532	1.64	0.11
100.00	1006.12	0.565	2.14	0.16
150.00	1006.24	0.584	2.50	0.21
200.00	1006.34	0.597	2.78	0.24
250.00	1006.44	0.607	3.02	0.28
300.00	1006.53	0.615	3.23	0.31
350.00	1006.61	0.622	3.42	0.34
400.00	1006.68	0.628	3.59	0.37
450.00	1006.76	0.633	3.74	0.39
500.00	1006.82	0.637	3.88	0.42

ROADWAY OVERTOPPING DATA

WEIR COEFFICIENT	2.60
EMBANKMENT TOP WIDTH (FT)	40.00
CREST LENGTH (FT)	75.00
OVERTOPPING CREST ELEVATION (FT)	1017.00

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 23, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning°s Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	322.0
Culvert Slope (feet per foot).....	0.0040

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
22.0	1.51	2.18	2.38	2.36	1.51	1.51	6.17
29.0	1.74	2.59	3.54	3.00	1.74	1.74	6.81
34.0	1.89	2.89	4.53	3.00	1.89	1.89	7.23
38.0	2.01	3.12	5.43	3.00	2.01	2.01	7.55

==========

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-24-91

STAGE- STORAGE- DISCHARGE TABLE

SUBBASIN 279B
1-24" CMP

ELEV (FT)	AREA (AC.)	VOLUME (AC-FT)	DISCHARGE (CFS)
1017.20 x Invert Elev	0	0	0
28 24" CMP	.14		
1020 x Weir Flow	.1	.14	10
3.3 Feet	.075		
1020.5	.2	.22	11 + 184 = 195
	.9		
1022	10	1.12	15 + 2206 = 2221
		Weir Flow	C = 2.6
		$Q = CLH^{3/2}$	H = .5
			L = 400/2
		Q at 1020.5 = 184 cfs	
			H = 2.0
			L = 600/2
		Q at 1022 = 2206	

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 23, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	2.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning°s Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	314.0
Culvert Slope (feet per foot).....	0.0040

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
10.0	1.13	1.67	2.63	2.00	1.13	1.13	5.46
11.0	1.20	1.78	3.14	2.00	1.19	1.20	5.59

==========

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-24-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 279C
4-36" CMP 1-24" CMP

ELEV. (FT)	AREA (AC.)	VOLUME (AC-FT)	DISCHARGE (CFS)
1020.36 x Invert Elev 4-36" CMP and 1-24" CMP	0	0	0
2.14	3.41		
1022.5 x Weir Flow	3.19	3.41	9 + 80 = 89
3.64	9.86		
1024	9.95	13.27	955 + 12 + 128 = 1095

Weir Flow C = 3.6
H = 1.7
L = [illegible]

Q = C L H^3/2

Q at 1024 = 955 cfs

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 23, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	2.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning°s Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	314.0
Culvert Slope (feet per foot).....	0.0045

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
9.0	1.07	1.56	2.00	2.00	1.07	1.07	5.26
12.0	1.24	1.89	3.54	2.00	1.24	1.24	5.84

==========

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PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 23, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	246.0
Culvert Slope (feet per foot).....	0.0050

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
20.0	1.43	2.05	1.92	2.00	1.43	2.00	3.99
32.0	1.83	2.77	3.58	3.00	1.83	1.83	7.06

==========

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-24-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 2790
1-24" CMP

ELEV. (FT)	AREA (AC.)	VOLUME (AC-FT)	DISCHARGE (CFS)
1023.33 = Invert	0	0	0
.17 24" CMP	.03		
1023.5 = Weir Flow	.36	.03	0
.67 Feet	.45		
1024	1.43	.48	160 + 2 = 162

Weir Flow
$Q = C L H^{3/2}$

C = 2.6
H = .5
L = 350/2

Q at 1024 = 160 cfs

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 23, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	2.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning°s Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	315.0
Culvert Slope (feet per foot).....	0.0050

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
2.0	0.49	0.67	-0.24	0.65	0.49	0.65	2.24

==========

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-24-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (280)
4-Span Bridge over EID canal

Actual Channel Width = 55' SS = 2:1 Left SS =

ELEV. (FT)	AREA (AC.)	VOLUME (AC-FT)	DISCHARGE (CFS)
* 1007 Invert Channel	0	0	0
	.28		
1008	.57	.28	106
	58.415		
1010	57.88	58.73	676

Form 209

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
January 23, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0018
Manning°s Roughness Coefficient (n-value).....	0.0300
Channel Side Slope - Left Side (horizontal/vertical)....	2.00
Channel Side Slope - Right Side (horizontal/vertical)...	2.00
Channel Bottom Width (feet).....	50.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
1.0	105.9	2.04	0.366	0.064	1.064	52.0	54.0
3.0	676.0	4.02	0.431	0.251	3.251	168.0	62.0

==========

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986 Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092 (713) 895-8322. A manual with equations & flow chart is available.

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-25-91

STAGE- STORAGE - DISCHARGE TABLE

SUBBASIN 280A

ELEV. (FT)	AREA (AC.)	VOLUME (AC-FT)	DISCHARGE (CFS)
1007.4	0	0	0
	6.24		
1008.0	20.79	6.24	0
	15.53		
1008.7 * Weir Flow	23.58	21.77	0
	7.14		
1009	24.0	28.91	726

Weir Flow
$Q = C L H^{3/2}$

C = 2.6
L = 340/2
H = .3

Qwd 1009.0 = 726

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-18-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (281)

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1007.5	0	0	0
	1.75		
1008	7.0	1.75	0
	5.04		
1008.4 + Weir Flow	18.2	6.79	0
	64.96		
1010	630	71.75	8539

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 3000/2
H = 1.6

Q at 1010 = 7893

Q at 1010 = 6216

H = 1.4
L = 3000/2

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-24-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (287)

1-30" RGRCP 1-36" RGRCP Bridge Opening BW=68' Sr 2:1 Sawtooth Ave.

ELEV. (FT)		AREA (AC.)		VOLUME (AC-FT)		DISCHARGE (CFS)
*996.75	Invert 36" RGRCP	0		0		0
.1			.045			
*997.15	Invert 30" RGRCP	.1		.045		1
4.55			.46			
*1001.7	Invert Bridge Opening	.2		.51	54+33 =	87
-2			2.13			
1002.0		13.79		2.64	57+34+30=	121
2			38.89			
1004.0		24.90		41.53	70+43+896=	1009

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 23, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning°s Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	373.0
Culvert Slope (feet per foot).....	0.0020

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
1.0	0.31	0.41	0.91	0.36	0.31	0.31	2.59
54.0	2.39	4.33	5.38	3.00	2.39	2.39	8.94
57.0	2.45	4.60	5.80	3.00	2.45	2.45	9.22
70.0	2.66	5.91	7.85	3.00	2.66	2.66	10.56

==========

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PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 23, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	2.50
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning°s Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	372.0
Culvert Slope (feet per foot).....	0.0020

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
33.0	1.95	3.47	4.58	2.50	1.95	1.95	8.01
34.0	1.98	3.58	4.78	2.50	1.98	1.98	8.15
43.0	2.20	4.73	6.85	2.50	2.19	2.20	9.40

==========

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TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
January 23, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0023
Manning°s Roughness Coefficient (n-value).....	0.0220
Channel Side Slope - Left Side (horizontal/vertical)....	2.00
Channel Side Slope - Right Side (horizontal/vertical)...	2.00
Channel Bottom Width (feet).....	68.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.3	29.7	1.44	0.466	0.032	0.332	20.6	69.2
2.3	896.3	5.37	0.643	0.447	2.747	167.0	77.2

==========

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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-18-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (284) ROOSEVELT CANAL AND THOMAS ROAD EXTENDED

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1007.6	0	0	0
	.18		
1008	.91	.13	0
	25.59		
1010	24.68	25.77	0
	8.28		
1010.3 + Weir Flow	30.54	34.05	0
	26.17		
1011	44.22	60.22	457
	23.75		
1011.5	50.76	82.77	2222

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 500'
H = .7

Q at 1011 = 457 cfs

L = 1300'
H = 1.2

Q at 1011.5 = 2222 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-24-91

STAGE-STORAGE-DISCHARGE TABLE

SUBBASIN 285 Reams Rd

Bridge BW=95' SS=2:1 S=.0028 L=600

ELEV. (FT)	AREA (AC.)		VOLUME (AC-FT)		DISCHARGE (CFS)
				FLOW SOUTH + EAST	
1002.8	0		0		0
		.17			
1003.0	1.72		.17	23+59 =	82
		1.44			
1003.5	4.02		1.61	188+506 =	694
		2.58			
1004.0	6.31		4.19	462+1225 =	1687

Form 209

FLOW OVER REEMS ROAD TO THE EAST

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
October 2, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0057
Manning's Roughness Coefficient (n-value).....	0.0500
Channel Side Slope - Left Side (horizontal/vertical)....	100.00
Channel Side Slope - Right Side (horizontal/vertical)...	100.00
Channel Bottom Width (feet).....	380.0

PROGRAM RESULTS:

	Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
10030	0.2	59.4	0.74	0.300	0.009	0.209	80.0	420.0
10035	0.7	506.0	1.61	0.364	0.040	0.740	315.0	520.0

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
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I-10 Bridge Opening at Reams Road

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
October 2, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0028
Manning's Roughness Coefficient (n-value).....	0.0220
Channel Side Slope - Left Side (horizontal/vertical)....	2.00
Channel Side Slope - Right Side (horizontal/vertical)...	2.00
Channel Bottom Width (feet).....	95.0

PROGRAM RESULTS:

	Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
1003.0	0.2	23.2	1.22	0.481	0.023	0.223	19.1	95.8
1003.5	0.7	187.9	2.78	0.591	0.120	0.820	67.5	97.8
1004	1.2	462.4	3.96	0.644	0.243	1.443	116.9	99.8

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FLOW OVER REEMS ROAD TO THE EAST

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
October 2, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0057
Manning's Roughness Coefficient (n-value).....	0.0500
Channel Side Slope - Left Side (horizontal/vertical)....	100.00
Channel Side Slope - Right Side (horizontal/vertical)...	100.00
Channel Bottom Width (feet).....	1000.0

PROGRAM RESULTS:

	Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
10040	0.5	719.4	1.37	0.350	0.029	0.529	525.0	1100.0

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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-24-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 285A

30" RGRCP 6'x4' BC 30" RCRCP

ELEV. (FT)		AREA (AC.)		VOLUME (AC-FT)	BC + 30 + 30 + Weir = Total	DISCHARGE (CFS)
999.7	x Invert 6'x4' BC	0		0	0 + 0 + 0 + 0 =	0
1.0			.13			
1000.7	x Invert 30" RGRCP	.26		.13	35 + 0 + 0 + 0 =	35
4.77			4.72			
1005.47	x Invert 30" RGRCP	1.51		4.35	161 + 32 + 0 + 0 =	193
.03			.05			
1005.5	x Weir Flow Flat	1.52		4.40	163 + 33 + .5 + 0 =	196.5
.5			.79			
1006.0		1.65		5.19	183 + 35 + .5 + 28 =	246.5
.5			1.70			
1006.5		5.14		6.89	200 + 37 + .5 + 683 =	925.5
			8.57			
1007.5		12.0		15.46	200 + 37 + .5 + 3677 =	3914

Weir Flow

$Q = C L H^{3/2}$

C = 2.6
L = 30
H = .5

Q at 1006 = 28 cfs

C = 2.6
L = 550/2
H = 1.0

Q at 1006.5 = 683 cfs

C = 2.6
H = 1000/2
H = 2

Q at 1007.5 = 3677

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 23, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	6.00
Culvert Rise (Height of Opening) (feet).....	4.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	359.0
Culvert Slope (feet per foot).....	0.0003

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
35.0	1.00	1.60	2.50	2.34	1.02	1.02	5.73
161.0	2.82	4.57	5.18	4.00	2.82	2.82	9.52
163.0	2.83	4.61	5.24	4.00	2.84	2.84	9.56
183.0	3.07	5.43	5.85	4.00	3.07	3.07	9.93
200.0	3.26	5.91	6.41	4.00	3.26	3.26	10.22

==========

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PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 23, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	2.50
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	458.0
Culvert Slope (feet per foot).....	0.0020

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
32.0	1.93	3.37	4.65	2.50	1.93	1.93	7.87
33.0	1.95	3.47	4.88	2.50	1.95	1.95	8.01
35.0	2.01	3.70	5.35	2.50	2.01	2.01	8.27
37.0	2.06	3.94	5.84	2.50	2.06	2.06	8.55

==========

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PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 23, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	2.50
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	303.0
Culvert Slope (feet per foot).....	0.0010

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
0.5	0.23	0.31	1.06	0.32	0.23	0.23	2.21

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-24-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 285B
5-29" x 45" HERCP 2-24" RCP

ELEV. (FT)	AREA (AC.)		VOLUME (AC-FT)		DISCHARGE (CFS)
1005.5 * Pipe Invert	0		0		0
1.4 2-24" RCP		.7			
1006.9 * Pipe Invert	1.0		.7		16
2.6 5-29"x45" HERCP		4.98			
1009.5 * Weir Flow	2.83		5.68	44 + 183 =	227
.5 East		2.16			
1010.0	5.80		7.84	40 + 226 + 161 =	435
1011.0			10.0	48 + 286 + 1194 =	1468

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 300/2
H = .5

Q = 161 cfs

Q at 1011 =

L = 300/2
H = 1.5

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 23, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	2.00
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	308.0
Culvert Slope (feet per foot).....	0.0054

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
8.0	1.01	1.47	0.32	0.94	1.01	0.94	5.55
22.0	1.67	3.29	3.78	2.00	1.67	1.67	7.83
24.0	1.73	3.66	4.50	2.00	1.73	1.73	8.29

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CURRENT DATE: 01-23-1991
CURRENT TIME: 02:54:07

FILE DATE: 01-23-1991
FILE NAME: WT2

FHWA CULVERT ANALYSIS
HY-8, VERSION 3.2

C U L V	SITE DATA INLET ELEV. (FT)	OUTLET ELEV. (FT)	CULVERT LENGTH (FT)	BARRELS SHAPE MATERIAL	CULVERT SHAPE, MATERIAL, INLET SPAN (FT)	RISE (FT)	MANNING n	INLET TYPE
1	1006.90	1005.67	228.00	5 RCPE	3.75	2.42	.012	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (CFS) FILE: WT2 DATE: 01-23-1991

ELEV (FT)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
1006.90	0	0	0	0	0	0	0	0	1
1008.02	50	50	0	0	0	0	0	0	1
1008.61	100	100	0	0	0	0	0	0	1
1009.14	150	150	0	0	0	0	0	0	1
1009.57	200	189	0	0	0	0	0	9	8
1009.72	250	202	0	0	0	0	0	47	5
1009.83	300	211	0	0	0	0	0	88	4
1009.93	350	219	0	0	0	0	0	130	4
1010.02	400	226	0	0	0	0	0	171	3
1010.11	450	233	0	0	0	0	0	214	3
1010.19	500	239	0	0	0	0	0	259	3
1009.50	183	183	0	0	0	0	0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: WT2 DATE: 01-23-1991

HEAD ELEV(FT)	HEAD ERROR(FT)	TOTAL FLOW(CFS)	FLOW ERROR(CFS)	% FLOW ERROR
1006.90	0.00	0	0	0.00
1008.02	0.00	50	0	0.00
1008.61	0.00	100	0	0.00
1009.14	0.00	150	0	0.00
1009.57	-0.01	200	2	0.86
1009.72	-0.01	250	1	0.45
1009.83	-0.01	300	2	0.53
1009.93	-0.01	350	1	0.27
1010.02	-0.00	400	3	0.75
1010.11	-0.00	450	3	0.64
1010.19	-0.00	500	2	0.50

<1> TOLERANCE (FT) = 0.010 <2> TOLERANCE (%) = 1.000

CURRENT DATE: 01-23-1991 FILE DATE: 01-23-1991
CURRENT TIME: 02:54:07 FILE NAME: WT2

CULVERT # 1

PERFORMANCE CURVE FOR 5 BARREL(S)

Q (cfs)	HWE (ft)	TWE (ft)	ICH (ft)	OCH (ft)	FLOW TYPE	CCE (ft)	FCE (ft)	TCE (ft)	VO (fps)
0	1006.90	1005.67	0.00	-1.23	0-NF	0.00	1006.90	0.00	0.00
50	1008.02	1005.97	1.12	0.47	6-FF	0.00	0.00	0.00	5.50
100	1008.61	1006.12	1.71	0.91	6-FF	0.00	0.00	0.00	6.82
150	1009.14	1006.24	2.24	1.47	6-FF	0.00	0.00	0.00	7.66
189	1009.57	1006.34	2.67	2.02	6-FF	0.00	0.00	0.00	8.16
202	1009.72	1006.44	2.82	2.21	6-FF	0.00	0.00	0.00	8.31
211	1009.82	1006.53	2.92	2.35	6-FF	0.00	0.00	0.00	8.39
219	1009.93	1006.61	3.03	2.49	6-FF	0.00	0.00	0.00	8.47
226	1010.02	1006.68	3.12	2.61	6-FF	0.00	0.00	0.00	8.53
233	1010.11	1006.76	3.21	2.72	6-FF	0.00	0.00	0.00	8.59
239	1010.19	1006.82	3.29	2.83	6-FF	0.00	0.00	0.00	8.63

El. inlet face invert 1006.90 ft El. outlet invert 1005.67 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION (FT)	0.00
INLET ELEVATION (FT)	1006.90
OUTLET STATION (FT)	228.00
OUTLET ELEVATION (FT)	1005.67
NUMBER OF BARRELS	5.00
SLOPE (V-FT/H-FT)	0.0054
CULVERT LENGTH ALONG SLOPE (FT)	228.00

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	ELLIPTICAL
BARREL SPAN	45.00 FT
BARREL RISE	29.00 FT
BARREL MATERIAL	CONCRETE
BARREL MANNING'S N	0.012
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	SQ. EDGE WITH HEADWALL
INLET DEPRESSION	NONE

ENT DATE: 01-23-1991
CURRENT TIME: 02:54:07

FILE DATE: 01-23-1991
FILE NAME: WT2

TAILWATER

******* REGULAR CHANNEL CROSS SECTION **********

BOTTOM WIDTH (FT)	100.00
SIDE SLOPE H/V (X:1)	%10.0
CHANNEL SLOPE V/H (FT/FT)	0.006
MANNING'S N (.01-0.1)	0.030
CHANNEL INVERT ELEVATION (FT)	1005.67
CULVERT NO.1 OUTLET INVERT ELEVATION	1005.67 FT

******* UNIFORM FLOW RATING CURVE FOR DOWNSTREAM CHANNEL

FLOW (CFS)	W.S.E. (FT)	FROUDE NUMBER	VEL. (FPS)	SHEAR (PSF)
0.00	1005.67	0.000	0.00	0.00
50.00	1005.97	0.532	1.64	0.11
100.00	1006.12	0.565	2.14	0.16
150.00	1006.24	0.584	2.50	0.21
200.00	1006.34	0.597	2.78	0.24
250.00	1006.44	0.607	3.02	0.28
300.00	1006.53	0.615	3.23	0.31
350.00	1006.61	0.622	3.42	0.34
400.00	1006.68	0.628	3.59	0.37
450.00	1006.76	0.633	3.74	0.39
500.00	1006.82	0.637	3.88	0.42

ROADWAY OVERTOPPING DATA

WEIR COEFFICIENT	2.60
EMBANKMENT TOP WIDTH (FT)	40.00
CREST LENGTH (FT)	175.00
OVERTOPPING CREST ELEVATION (FT)	1009.50

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-23-91

STAGE- STORAGE- DISCHARGE TABLE

SUBBASIN 287

ELEV. (FT)	AREA (AC.)		VOLUME (AC-FT)	DISCHARGE (CFS)
988	0		0	0
		14.18		
990	14.18		14.18	373
		47.05		
992	32.87		61.23	2288
		204.82		
994	171.95		266.05	4167
		90.49		
994.5	190.0		356.54	5000
		146		
995.71	210.0		502.54	6570

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 22, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	165.00
Culvert Rise (Height of Opening) (feet).....	5.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning`s Roughness Coefficient (n-value).....	0.0400
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	100.0
Culvert Slope (feet per foot).....	0.0017

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
500.0	1.52	1.02	2.68	1.52	0.66	1.52	1.99
1000.0	2.31	1.64	2.92	2.31	1.04	2.31	2.62
2000.0	3.52	2.63	3.62	3.52	1.66	3.52	3.44
3000.0	4.51	3.47	4.94	4.51	2.17	4.51	4.03
4000.0	5.00	4.23	5.90	5.00	2.63	5.00	4.85
5000.0	5.00	4.94	6.50	5.00	3.06	5.00	6.06
6570.0	5.00	6.10	7.71	5.00	3.67	5.00	7.96

==========

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-23-91

STAGE- STORAGE- DISCHARGE TABLE

SUBBASIN 287A

Assume .5 ft Head Between Basins

ELEV. (FT)	AREA (AC.)	VOLUME (AC-FT)	DISCHARGE (CFS)
*975.7 Invert of 48" RCP	0	0	0
2.3	14.44		
978	12.56	14.44	7
4.3	45.62		
980	33.06	60.06	55
12.3	314.44		
988	45.55	374.5	55
12.1	48.51		
*988.8 Weir Flow South	75.73	423.01	55
14.3	15.9		
990	83.27	438.91	274+55=329

Weir Flow $Q = CLH^{3/2}$

C=2.6
L=80
H=1.2

Q at 990 = 274 cfs

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
October 3, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	4.00
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	114.0
Culvert Slope (feet per foot).....	0.0008

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
7.0	2.50	1.04	2.42	1.09	0.77	2.50	0.85
55.0	3.80	3.32	4.30	4.00	2.23	3.80	4.46
55.0	11.80	3.32	12.30	4.00	2.23	4.00	4.38
55.0	12.60	3.32	13.10	4.00	2.23	4.00	4.38
55.0	13.80	3.32	14.30	4.00	2.23	4.00	4.38

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-23-91

STAGE – STORAGE – DISCHARGE TABLE

SUBBASIN (287B) Assume 1 Ft of Head between Basins

ELEV. (FT)		AREA (AC.)		VOLUME (AC-FT)	DISCHARGE (CFS)
*974.6 Invert of 2-72"x12" Weep		0		0	0
			17.05		
978	3.4	10.03		17.05	2
			21.52		
980	5.4	11.49		38.57	60
			93.95		
*987.3 Weir Flow	12.7	14.25		132.52	800
			10.48		
988	13.4	15.68		143.0	153 + 800 = 953

Weir Flow $Q = CLH^{3/2}$ C = 2.6, L = 200/2, H = .7

Q at 988 = 153 cfs

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
October 3, 1991
Assumed Box Culvert Opening for 77" x 121" HERCP

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	6.50
Culvert Rise (Height of Opening) (feet).....	10.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.012
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	182.0
Culvert Slope (feet per foot).....	0.000

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
1.0	2.40	0.14	4.99	0.21	0.09	2.40	0.06
30.0	4.40	1.34	5.39	1.90	0.87	4.40	1.05
400.0	11.70	7.86	12.71	10.00	4.90	10.00	6.15
400.0	12.40	7.86	13.41	10.00	4.90	10.00	6.15

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-23-91

STAGE – STORAGE – DISCHARGE TABLE

SUBBASIN 287C Assume 1 Ft Head Between Basins

ELEV. (FT)		AREA (AC.)		VOLUME (AC-FT)	DISCHARGE (CFS)
*972.5 Invert of 2-84" RCP		0		0	0
			37.15		
976	3.5	21.23		37.15	6
			104.16		
980	7.5	30.85		141.31	460
			284.44		
988	15.5	40.26		425.75	460
			27.5		
*988.6 Weir Flow	16.1	51.42		453.25	460
			109.61		
990	17.5	105.16		562.86	460 + 197 = 657

Weir Flow $Q = CLH^{3/2}$ C = 2.6, L = 600/2, H = .4

Q at 990 = 197 cfs

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
October 3, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	7.00
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	180.0
Culvert Slope (feet per foot).....	0.0008

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
3.0	2.64	0.58	3.57	0.60	0.43	2.64	0.23
230.0	6.64	5.94	7.53	7.00	3.97	6.64	6.10
230.0	14.64	5.94	15.53	7.00	3.97	7.00	5.98
230.0	15.24	5.94	16.13	7.00	3.97	7.00	5.98
230.0	16.64	5.94	17.53	7.00	3.97	7.00	5.98

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-23-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 287D

ELEV. (FT)		AREA (AC.)		VOLUME (AC-FT)	DISCHARGE (CFS)
*970.5	48" S.D Invert	0		0	0
			30.21		
974	3.5	17.26		30.21	36
			132.21		
980	9.5	26.81		162.42	60
			241.08		
983	12.5	33.46		403.5	81
			93.33		
990	19.5	59.87		496.83	86
			35.99		
*990.5	20 Weir Flow Out OF DET. BASIN	84.08		532.82	87

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
January 22, 1991

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PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	4.00
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning`s Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	5620.0
Culvert Slope (feet per foot).....	0.0006

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
40.0	1.80	2.72	3.50	3.50	1.89	1.89	6.86
63.0	2.39	3.64	9.57	4.00	2.39	2.39	8.03
84.0	2.78	4.48	17.34	4.00	2.78	2.78	9.01
89.0	2.85	4.72	19.51	4.00	2.86	2.86	9.26
90.0	2.88	4.79	19.95	4.00	2.88	2.88	9.29
92.0	2.91	4.91	20.86	4.00	2.91	2.91	9.39

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-23-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (287E) 1-36" Pipe Invert = 984.1 L = 376' S = .0053'

ELEV. (FT)	AREA (AC.)	VOLUME (AC-FT)	DISCHARGE (CFS)
981.4	0	0	0
	303		
982	10.1	303	0
	32.2		
984.1 ± Pipe Invert	22.1	35.23	0
	50.2		
986.1	28.1	85.43	19
	107.38		
989.1 ± Weir Flow over Dike Into Agua Fria	43.72	192.71	58
	55.95		
990.1	69.47	248.66	65 + 650 = 717
	158.47		
992.1	90.0	407.12	70 · [illegible] = 13580

C = 2.6
Weir Flow L = 550/2
H = 10

Q at 990.1 = 650 cfs

Q at 992.1 = 13,580 cfs L = 2000/2
H = 3.0

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	376.0
Culvert Slope (feet per foot).....	0.0053

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
19.0	1.40	2.01	0.63	1.25	1.40	1.25	6.83
58.0	3.00	4.69	4.98	3.00	2.46	3.00	8.21
65.0	3.00	5.38	6.00	3.00	2.59	3.00	9.20

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-21-91

STAGE- STORAGE- DISCHARGE TABLE

Subbasin 290 2-36" CP into Agua Fria Invert = 991.0 L = 120' S = .005

ELEV. (FT)	AREA (AC.)		VOLUME (AC-FT)	DISCHARGE (CFS)
991.0 * Invert	0		0	0
995.5	.5	1.12	1.12	112
		1.55		
996.0	6.21		2.67	122
		4.27		
996.4 * Weir Flow	15.13		6.94	130
		10.60		
997.0	20.20		17.54 142 + 725	= 867
		60.00		
999.0	40.20		77.94 142 + 13080	= 13222

Weir Flow Q = CLH 3/2 C = 2.6

L = 1200/2

H = .6

Q at 997 = 725 cfs

Q at 999 = 13080 cfs

L = 3400/2

H = 2.6

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	120.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
56.0	3.00	4.51	4.58	3.00	2.43	3.00	7.92
61.0	3.00	4.97	4.99	3.00	2.52	3.00	8.63
65.0	3.00	5.38	5.34	3.00	2.59	3.00	9.20
71.0	3.00	6.03	5.90	3.00	2.67	3.00	10.04

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COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-21-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (291) 3-48" CMP Invert = 978.01 L = 120 S =

ELEV. (FT)	AREA (AC.)		VOLUME (AC-FT)	DISCHARGE (CFS)
978.01 * Invert	0		0	0
		.05		
979	.10		0	3.0
		.35		
980	.70		.40	42
		8.04		
982	7.34		8.44	126
		40.22		
984	32.18		48.26	129
		86.76		
986	54.58		135.42	261
		43.35		
986.7 * Weir Flow South over McDowell	69.29		178.77	294
		107.83		
988	96.60		~~286.60~~ 318 + 636 =	934

Weir Flow $Q = CLH^{3/2}$

$C = 2.6$

$L = 330/2 = 165$

$H = 1.3$

Q at 988 = 636 cfs

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	4.00
FHWA Chart Number (1,2 or 3).....	2
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0240
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	120.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
1.0	2.00	0.38	1.54	0.37	0.29	2.00	0.16
14.0	2.00	1.50	2.01	1.38	1.09	2.00	2.23
42.0	4.00	2.78	4.01	2.61	1.94	4.00	3.34
43.0	6.00	2.82	6.04	2.66	1.96	4.00	3.42
87.0	6.00	4.50	8.01	4.00	2.83	4.00	6.92
98.0	6.00	5.12	8.71	4.00	3.00	4.00	7.80
116.0	6.00	5.99	10.04	4.00	3.25	4.00	9.23

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-27-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (293)

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1006.4	0	0	0
	8.72		
1007.4 *Weir Flow Across Road	17.43	8.72	0
	13.60		
1008.0	27.90	22.32	1450
	24.48		
1008.5	35.0	64.79	3600
		Weir Flow	C = 2.6
		$Q = CLH^{3/2}$	L = 2400 ft
			H = .6
		at 1008.0 Q = 1450 cfs	
		at 1008.5 Q = 3600	L = 2400 ft
			H = .61

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 293A

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1002.5	0	0	0
	3.50		
1004	4.66	3.50	0
	4.74		
1004.6	11.13	8.24	0
	10.43		
1005.3 * Weir Flow West Over Road + South Over Canal	18.66	18.67	0
	15.70		
1006.0	26.2	34.37	891
	14.05	48.42	2563 cfs
1006.5	30	Weir Flow Over Canal	C = 2.6
		$Q = CLH^{3/2}$	H = .7
			L = 1050/2
		Q at 1006 = 800 cfs	H = 1.2
		Q at 1006.5 = 2050 cfs	L = 1200/2
			C = 2.6
		Weir Flow West Over Road	H = .7
			L = 120/2
		Q at 1006 = 91 cfs	H = 1.2
		Q at 1006.5 = 512 cfs	L = 300/2

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (294)

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
970.4	0	0	0
	6.32		
972	7.90	6.32	0
	13.24		
980	25.20	19.56	0
	28.35		
990	31.07	300.91	0
	33.4.4		
1000	35.81	635.31	0
	2 64.64		
1007 * Weir Flow Over Canal	39.8	899.95	0
	42.16		
1008	44.52	942.11	715
	37.35		
1008.8	48.95	979.46	2198

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
H = 1.8
L = 550/2

Q at 1008 = 715 cfs

C = 2.6
H = 1.9
L = 700/2

Q at 1008.8 2198

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-12-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 294A

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1006.7	0	0	0
	3.78		
1007.8 x Weir Flow	6.89	3.78	0
	1.51		
1008	8.19	5.29	46
	52.01		
1010	43.82	57.30	16968

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 200
H = .2

Q at 1008 = 46 cfs

L = 2000
H = 2.2

Q at 1010 = 16968

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-25-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (297)
(PIT)

ELEV. (FT)	AREA (AC.)	VOLUME (AC-FT)	DISCHARGE (CFS)
932.9	0	0	0
	12.78		
940	34.1	12.78	0
	117.1		
960	8.30	129.9	0
	267.3		
980	18.43	397.18	0
	199		
990	21.37	596.18	0
	207.2		
* 999.1 Weir Flow	24.17	803.38	0
	22.25		
1000.0	25.27	825.63	555 cfs

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 500/2
H = .9

Q at 1000 = 555 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-25-91

STAGE- STORAGE- DISCHARGE TABLE

SUBBASIN (298)

ELEV. (FT)	AREA (AC.)	VOLUME (AC-FT)	DISCHARGE (CFS)
975.5	0	0	0
	.08		
976	.34	.08	0
	6.95		
978	6.61	7.03	0
	2.25		
978.3x	8.40	9.28	0
	22.91		
980	18.55 ~~21.70~~	32.19	2881
981	25.0	53.97	8075
		Weir Flow	C = 2.6
		$Q = CLH^{3/2}$	L = 500
			H = 1.7
		Q at 980 = 2881	
			L = 1400/2
		Q at 981 = 8075	H = 2.7

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-23-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 302 1-30" CP into Agua Fria

ELEV. (FT)	AREA (AC.)		VOLUME (AC-FT)		DISCHARGE (CFS)
972.0 * Invert	0		0		0
		1.16			
974	1.10		1.16		16
		6.28			
976	5.18		7.44		39
		10.38			
* 977.6 Weir Flow South	7.79		17.82		49
		4.33			
978	13.88		22.15	51+66	117
		38.71			
980	24.83		60.86	62+3625 =	3687

Weir Flow $Q = CLH^{3/2}$

C = 2.6
L = 200/2
H = .4

at 978 Q = 66 cfs

C = 2.6
L = 750/2
H = 2.4

at 980 Q = 3625

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	2.50
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	100.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
16.0	1.35	2.00	1.80	1.26	1.35	1.26	6.43
38.0	2.08	4.06	3.91	2.50	2.08	2.50	7.74
49.0	2.29	5.64	5.42	2.50	2.29	2.50	9.98
51.0	2.31	5.97	5.73	2.50	2.31	2.50	10.39
62.0	2.41	8.02	7.60	2.50	2.41	2.50	12.63

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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 305

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
100.5	0	0	0
	.32		
1002	1.28	.32	0
	4.2		
1003 x Weir Flow Across Canal	7.12	4.52	0
	10.54		
1004	13.96	15.06	845 cfs
	9.56		
1004.5	24.3	24.62	4777 cfs

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 650/2
H = 1.0

Q at 1004 = 845 cfs

C = 2.6
L = 2000/2
H = 1.5

Q at 1004.5 = 4777

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (306)

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
1004.5	0	0	0
	3.71		
1005.3 *Weir Flow Over Canal	9.27	3.71	0
	9.33		
1006.0	17.38	13.04	3426

C = 2.6
H = .7
L = 7250

Weir Flow
$Q = CLH^{3/2}$

Qat 1006.0 = 3426

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-8-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (320) 1-36" CP into Agua Fria Invert 956.0 Top RR = 968.3
L=60 S=.005 ft/ft

ELEV. (FT)	AREA (AC)		VOLUME (AC-FT)		DISCHARGE (CFS)
956.0 * Invert	0		0		0
		4.15			
958	4.15		4.15		16
		30.07			
960	12.96		34.22		50
		36.87			
962	23.91		71.09		71
		70.34			
964	46.43		141.43		87
		135.53			
966	89.10		276.96		100
		204.1			
968	115.00		481.06		112
		35.85			
968.3 * Weir Flow	120.01		516.31		114
		88.10			
969	131.7		604.41	117+1218 = 1335	
		140.05			
970	148.4		744.46	123+10373 = 10496	

Weir Flow
$Q = CLH^{3/2}$
Q at 969 = 1218 cfs
Q at 970 = 10373

C = 3.6
L = 1600/2
H = .7

L = 3600/2
H = 1.7

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 8, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	3.00
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning`s Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	60.0
Culvert Slope (feet per foot).....	0.0050

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
16.0	1.28	1.81	1.99	1.15	1.28	1.28	5.56
50.0	2.41	4.00	3.80	2.41	2.30	2.41	8.22
71.0	2.67	6.03	5.46	3.00	2.67	3.00	10.04
87.0	2.83	8.04	7.01	3.00	2.83	3.00	12.31
100.0	2.90	9.98	8.45	3.00	2.90	3.00	14.15
112.0	2.90	12.00	9.95	3.00	2.93	3.00	15.84
114.0	2.90	12.36	10.21	3.00	2.94	3.00	16.13
117.0	2.94	12.91	10.62	3.00	2.94	3.00	16.55
123.0	2.95	14.06	11.46	3.00	2.95	3.00	17.40

==========

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 321

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
998.3	0	0	0
	11.57		
1000	19.28	11.57	0
	31.88		
1001.1 * Weir Flow Across Canal	38.69	43.45	0
	46.97		
1002	54.58	85.42	10212

Weir Flow $Q = CLH^{3/2}$ C = 2.6, H = .9, L = 4400

Q at 1002 = 10212

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 323

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
998.7	0	0	0
	.39		
1000	2.61	.39	0
	11.06		
1001.5 * Weir Flow Across Road & Canal	12.14	11.45	0
	2.81		
1001.8	15.96	14.26 64+64	128
	5.65		
1002.0	21.68	19.91 2114+230 =	2344

Weir Flow Across Canal C=2.6
L=300/2
H=.3

Q at 1001.8 64 cfs
Q at 1002 = 2114
H=.5 L=200

Weir Flow Across Road
C=2.6
L=500/2
H=.5

Q at 1002 = 230 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-8-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 336

SRRR Bridge

= 3880' East of Rrama Rd. BW = 25' LSS = 4:1 RSS = 2:1
Invert = 922.8' Top of RR = 935.2 LC = 3'

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
922.3 x Invert	0	0	0
	.54		
930	.14	.54	1400
	1.18		
932	1.04	1.72	2075
	2.77		
932.8 x Weir Flow West	5.88	4.49	2335
	1.30		
933.	7.10	5.79	14 + 2400 = 2414
	10.12		
934.	13.15	15.91	205 + 2595 = 2800
	16.50	32.49	5939 + 2595 = 8534
935	20.0		

* Weir Flow
$Q = CLH^{3/2}$

Qat 933 = 14 cfs

Qat 934 = 205 cfs

Qat 934 = 5939

C = 2.6
L = 60
H = .2
L = 60
H = 1.2
L = 700
H = 2.2

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	25.00
Culvert Rise (Height of Opening) (feet).....	9.40
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0220
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	30.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
1400.0	5.01	7.38	7.72	5.01	4.60	5.01	11.18
2075.0	6.51	9.68	9.46	6.57	5.98	6.57	12.64
2335.0	7.13	10.50	10.21	7.13	6.47	7.13	13.10
2400.0	7.27	10.70	10.41	7.27	6.59	7.27	13.20
2595.0	7.68	11.70	11.02	7.68	6.94	7.68	13.51

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BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	56.00
Culvert Rise (Height of Opening) (feet).....	4.70
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0220
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	30.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
520.0	1.51	2.19	2.99	1.52	1.39	1.51	6.15
1730.0	3.20	5.01	4.85	3.20	3.09	3.20	9.65
2045.0	3.56	5.80	5.48	3.56	3.46	3.56	10.27
2085.0	3.60	6.00	5.56	3.60	3.50	3.60	10.35
2400.0	3.93	7.01	6.26	3.93	3.85	3.93	10.90

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-8-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 336 B ≅ 1750' East of Reems Road BW=5' RSS=0:1
Invert=924.31 Top of BR=927.8' LC=3' LSS=3:1
SPRR Bridge

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
924.3 * Invert	0	0	0
	2.37		
924.0	1.75	2.37	110
	3.05		
925.0 * Weir Flow	4.36	5.42	169
	2.34		
925.5	5.0	7.76	192 + 1057 = 1249

Weir Flow C=2.6
$Q = CLH^{3/2}$ L=1180
Q at 925.5 = 1057 cfs H=.5

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	10.00
Culvert Rise (Height of Opening) (feet).....	3.50
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0300
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	25.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
110.0	2.31	2.48	2.70	2.31	1.55	2.31	4.76
169.0	3.12	3.34	3.71	3.12	2.07	3.12	5.42
192.0	3.42	3.65	4.21	3.42	2.25	3.42	5.61

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-12-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 337

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
951.3	0	0	0
	.06		
952	.18	.06	10
	3.08		
954	2.90	3.14	100
	11.94		
956	9.04	15.08	250
	30.2		
958	21.16	45.28	310
	65.31		
960	44.15	110.59	380
	111.19		
962	67.04	222.78	383
	68.66		
962.8 * Weir Flow	104.62	290.44	383
	159.37		
964	161.0	449.81 383+8545	8928

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 2500
H = 1.2

Qat 964 = 8545 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 1-23-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 338A

3-11'x6' BCS L = 130 S = .0016

ELEV (FT)		AREA (AC.)		VOLUME (AC-FT)		DISCHARGE (CFS)
* 939.6	Box Culvert Invert	0	.51	0		0
942		.46	8.61	.51		3
944		8.15	30.02	9.12		729
* 945.8	Weir Flow South Over Road	25.21	5.23	39.14		1410
946		27.11		44.37	1470 + 23 =	1493

Weir Flow $Q = CLH^{3/2}$

C = 2.6
L = 20'/2
H = .2

Q = 23 cfs

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	11.00
Culvert Rise (Height of Opening) (feet).....	6.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	130.0
Culvert Slope (feet per foot).....	0.0016

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
1.0	0.05	0.10	2.82	0.09	0.06	0.06	1.43
243.0	2.47	3.95	4.39	2.91	2.47	2.47	8.93
470.0	3.84	6.22	6.07	4.66	3.84	4.66	9.18
490.0	3.95	6.40	6.24	4.80	3.95	4.80	9.28

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-22-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 346B WEST OF RUBBERMAID SITE

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
907	0	0	0
	.84		
907.7 * Weir Flow West	2.41	.84	0
	.88		
908 * Weir Flow South + West	3.44	1.72	27
	2.16		
908.5	5.19	3.88 280 + 69 =	349
	3.25		
909	7.82	7.13 1252 + 423 =	1675
	9.13		
910	10.44	16.26 3038 + 2390 =	5428

Weir Flow (West)
$Q = CLH^{3/2}$ C = 2.6

Q at 908 = 27 cfs H = .3, L = 125/2

Q at 908.5 = 280 cfs H = .8, L = 300/2

Q at 909 = 1252 cfs H = 1.3, L = 650/2

Q at 910 = 3038 cfs H = 2.3, L = 670/2

Weir Flow (South)
$Q = CLH^{3/2}$ C = 2.6

Q at 908.5 = 69 cfs H = .5, L = 150/2

Q at 909 = 423 cfs H = 1.0, L = 365/2

Q at 910 = 2390 cfs H = 2, L = 650/2

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-12-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 346C RUBBERMAID SITE

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
905.4	0	0	0
	.55		
906	1.84	.55	0
	9.74		
908	7.9	10.29	0
	8.69		
909 * Weir Flow Want	9.48	18.98	0
	13.93		
910	18.38	32.91	1040
	10.84		
910.5	25.0	43.76	2866

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 400
H = 1.0

Q at 910 = 1040 cfs

Q at 910.5 = 2866

L = 600
H = 1.5

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 347 SPAR Bridge

① Just West of Sarival Ave BW=6' D=1' LC=2.7' Invert=904.4 Top of RR=908.1
② ≈ 2050' West of Sarival BW=9' D=3' LC=3' Invert=906.0 Top of RR=910
③ ≈ 3400' West of Sarival BW=12' D=2.5' LC=2' Invert=905.5 Top of RR=910.0
④ ≈ 200' East of Cotton Lane BW=13' D=3' LC=3' Invert=905.2 Top of RR=911.2

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
Invert 904.4 * ① Invert	0	0	0
	.004		
Invert 905.2 * ④ Invert	.01	.04	11
	.006		
Invert 905.5 * ③ Invert	.03	.1	13+1 = 14
	.02		
Invert 906 * ② Invert	.05	.12	21+1+1 = 23
	.136		
908.1 * Weir Flow	.09	.26	41+151+123+55 = 370
	58.5		
910	61.5	58.75	53+279+2412+160+6980 = 7710
	97.9		
911.2	101.67	156.65	59+346+273+225+37465+33388

Weir Flow $Q = CLH^{3/2}$ C=2.6

at 910 L=205'/2

Q at 910 = 6980 cfs H=1.9

Q at 911.2 = 37465 cfs L=512'/2

H=3.1

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	6.00
Culvert Rise (Height of Opening) (feet).....	1.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0300
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	30.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
11.0	0.74	0.75	0.79	0.74	0.47	0.74	2.48
13.0	0.83	0.85	0.97	0.83	0.53	0.83	2.61
21.0	1.00	1.18	1.60	1.00	0.72	1.00	3.50
41.0	1.00	2.61	3.69	1.00	1.00	1.00	6.83
53.0	1.00	3.81	5.60	1.00	1.00	1.00	8.83
59.0	1.00	4.53	6.74	1.00	1.00	1.00	9.83

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BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	12.00
Culvert Rise (Height of Opening) (feet).....	3.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0300
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	30.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
1.0	0.05	0.09	1.38	0.11	0.06	0.06	1.39
1.0	0.11	0.09	1.38	0.11	0.06	0.11	0.76
151.0	2.47	2.74	2.90	2.47	1.70	2.47	5.09
277.0	3.00	4.71	4.79	3.00	2.55	3.00	7.69
346.0	3.00	5.99	5.88	3.00	3.00	3.00	9.61

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BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	12.00
Culvert Rise (Height of Opening) (feet).....	2.50
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0300
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	30.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
1.0	0.02	0.09	1.13	0.11	0.06	0.06	1.39
123.0	2.15	2.39	2.59	2.15	1.48	2.15	4.77
240.0	2.50	4.49	4.58	2.50	2.32	2.50	8.00
293.0	2.50	5.70	5.68	2.50	2.50	2.50	9.77

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BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	9.00
Culvert Rise (Height of Opening) (feet).....	3.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0300
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	30.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
55.0	1.58	1.67	2.02	1.58	1.05	1.58	3.87
160.0	3.00	3.48	4.03	3.00	2.14	3.00	5.93
225.0	3.00	5.10	5.19	3.00	2.69	3.00	8.33

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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-27-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (348) Sairwal Ave. 24" CP West across Road north of RR
Invert 906.6 Top of Road = 909.6 L=60' S=.005

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
906.6 = Invert	0	0	0
907.6	0	0	0.5
	0.72		
908	3.60	0.72	5
	1.40		
908.3 x Weir Flow South Across R.R.	5.72	2.12	9
	13.39		
909.6 x Weir Flow West Across Road	14.80	15.51 18+3083=3101	
	6.52		
910	17.70	22.03 21+5475+165=5661	

Weir Flow Across RR C=2.6

Q at 909.6 = 3083 cfs H=1.3 L=200'
Q at 910 = 5475 cfs H=1.7 L=200'

Weir Flow Across Road C=2.6

Q at 910 = 165 cfs H=.4 L=50'/2

Form 209

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Diameter (feet).....	2.00
FHWA Chart Number (1,2 or 3).....	1
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning`s Roughness Coefficient (n-value).....	0.0120
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	60.0
Culvert Slope (feet per foot).....	0.0015

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
0.5	0.31	0.32	1.03	0.31	0.24	0.31	1.61
5.0	1.05	1.11	1.39	1.05	0.79	1.05	2.99
9.0	1.55	1.58	1.73	1.55	1.07	1.55	3.44
18.0	2.00	2.65	3.00	2.00	1.53	2.00	5.73
21.0	2.00	3.12	3.39	2.00	1.64	2.00	6.68

==========

PIPE CULVERT ANALYSIS COMPUTER PROGRAM Version 1.5 Copyright (c)1986
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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-11-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 348B = 1/2 MILE WEST OF REEMS ROADS BW=12 D=2.3 LC=31
INVERT = 907.6' Top of RR = 914.0
SPRR Bridge

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
908.5 = Invert	0	0	0
	.08		
910.1	.10	.08	50
	8.25		
914 = Weir Flow Across RR	4.13	8.33	285
	5.83		
915	7.52	14.16	323 + 455 = 778
	9.21		
916	10.9	23.37	358 + 4228 = 4586

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 350/2
H = 1.0

Q at 915 = 455 cfs

L = 1150/2
H = 2.0

Q at 916 = 4228 cfs

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	12.00
Culvert Rise (Height of Opening) (feet).....	2.50
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning`s Roughness Coefficient (n-value).....	0.0300
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	30.0
Culvert Slope (feet per foot).....	0.0050

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
50.0	1.19	1.29	1.60	1.19	0.81	1.19	3.50
285.0	2.50	5.50	5.50	2.50	2.50	2.50	9.50
323.0	2.50	6.49	6.40	2.50	2.50	2.50	10.77
358.0	2.50	7.51	7.32	2.50	2.50	2.50	11.93

==========

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-30-91

STAGE - STORAGE - DISCHARGE TABLE

L = 25' S = .005'/'

SUBBASIN (349) 700' East of Dean Road BW = 10' Height = 5' Invert = 889.1 LC = 3'

SPRR Bridges 3450' West of Airport Rd BW = 38 Height = 5' Invert = 890.9'

RSS = 0:1 LSS = 3:1

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
889.1 x Invert	0	0	0
890.9 x Invert	0	0	0
	.085		
894.1	.17	.085	265 + 375 = 640
	5.68		
896.1	5.51	5.76	435 + 1245 = 1680
	8.82		
897.1 x Weir Flow Over RR	10.52	14.59	506 + 1495 = 2001
	15.41		
898	23.73	29.99	555 + 1695 + 666 = 2916

Weir Flow C = 3.6

$Q = CLH^{3/2}$ L = 600/2 = 300

H = .9

Q at 898 = 666 cfs

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	10.00
Culvert Rise (Height of Opening) (feet).....	5.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0300
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	25.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
265.0	4.32	4.50	4.99	4.32	2.79	4.32	6.13
435.0	5.00	6.95	7.03	5.00	3.89	5.00	8.70
506.0	5.00	7.99	7.79	5.00	4.30	5.00	10.12
555.0	5.00	8.79	8.38	5.00	4.57	5.00	11.10

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BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	38.00
Culvert Rise (Height of Opening) (feet).....	5.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0300
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	25.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
375.0	1.93	2.28	3.20	1.93	1.45	1.93	5.11
1245.0	4.14	5.21	5.17	4.14	3.22	4.14	7.92
1495.0	4.66	5.95	6.20	4.66	3.64	4.66	8.44
1695.0	5.00	7.11	7.01	5.00	3.95	5.00	8.92

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-30-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 350

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
886.8	0	0	0
	4.41		
888	7.35	4.41	0
	19.73		
889 * Weir Flow Over Canal	32.10	24.14	0
	44.48		
890	56.86	68.62	3900

* Weir Flow
$Q = CLH^{3/2}$
Q at 890 = 3900 cfs

C = 2.6
L = 3000/2
H = 1.0

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-30-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 351
Bridges Under SPRR

3050' West of Jackrabbit Trail BW=15' SS=2:1 LC=3'
Invert=892.5 Top of Area=898.5
4200' West of Jackrabbit Trail BW=15 SS=2:1 LC=3' Invert=888.5
Top of Area=893.5

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
888.5 * Invert	0	0	0
	.80		
892.5 * Invert	.80	.80	475
	4.0		
894	2.93	4.80	700 + 15 = 715
	6.08		
895.5 * Weir Flow Over RR	5.18	10.88	910 + 335 = 1245
	2.78		
896	5.93	13.66	970 + 391 + 92 = 1453
	14.96		
898	8.93	28.52	1175 + 642 + 6166 = 7983
	42.07		
900	53.14	90.59	1348 + 825 + 37229 = 39402

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 200/2
H = .5

Qat 896 - 92 cfs

Qat 898 = 6166 cfs
L = 1800/2
H = 2.5

Qat 900 - 37229 cfs
L = 3000/2
H = 4.5

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	23.00
Culvert Rise (Height of Opening) (feet).....	4.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0300
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	25.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
495.0	3.29	3.93	3.98	3.29	2.43	3.29	6.54
700.0	4.00	5.41	5.51	4.00	3.06	4.00	7.61
910.0	4.00	7.01	6.64	4.00	3.65	4.00	9.89
970.0	4.00	7.52	7.02	4.00	3.81	4.00	10.54
1175.0	4.00	9.52	8.49	4.00	4.00	4.00	12.77
1348.0	4.00	11.51	9.94	4.00	4.00	4.00	14.65

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BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	24.00
Culvert Rise (Height of Opening) (feet).....	3.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0300
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	25.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
15.0	0.35	0.35	1.49	0.36	0.23	0.35	1.79
335.0	2.47	2.94	3.00	2.47	1.82	2.47	5.65
391.0	2.73	3.27	3.50	2.73	2.02	2.73	5.97
642.0	3.00	5.49	5.28	3.00	2.81	3.00	8.92
825.0	3.00	7.48	6.84	3.00	3.00	3.00	11.46

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The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 352

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
889.9	0	0	0
	.08		
890	1.65	.08	0
	14.08		
891.7 x Weir Flow Across Canal	14.92	14.16	0
	4.83		
892	17.26	18.99	21
	45.87		
894	28.61	64.86	2267

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 50
H = .3

Qat 892 = 21 cfs

Qat 894 = 2267 cfs

L = 500/2
H = 2.3

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-30-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 352A

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
884.7	0	0	0
	.48		
888	.29	.48	0
	8.0		
890	7.71	8.48	0
	16.28		
891.1 * Weir Flow	21.89	24.76	0
	24.92		
892	38.49	49.68	1664

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 1500/2
H = .9

Q at 892 = 1664 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-30-91

STAGE - STORAGE - DISCHARGE TABLE

Just West of Jackrabbit BW=10 ES=0.1 Hc, H = 2' LC=2'

SUBBASIN 353 Invert = 894.4 Top RR Rd = 898.4

Bridge Under SPRR

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
894.4 x Invert	0	0	0
	.19		
898	.11	.19	138
	.35		
898.4 Weir Flow	1.63	.54	153
	3.80		
890	7.71	3.31 167+1315	= 1483
	4.43		
890.5	10.0	7.74 167+3165	= 3332
		Weir Flow	= 2.6
		$Q = CLH^{3/2}$	L = 500/2
			H = 1.6
		Q at 890 = 1315 cfs	
		Q at 890.5 = 3165	L = 800/2
			H = 2.1

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	10.00
Culvert Rise (Height of Opening) (feet).....	2.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning's Roughness Coefficient (n-value).....	0.0300
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	25.0
Culvert Slope (feet per foot).....	0.0050

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
138.0	2.00	3.45	3.60	2.00	1.81	2.00	6.90
153.0	2.00	3.87	3.99	2.00	1.94	2.00	7.65
167.0	2.00	4.30	4.40	2.00	2.00	2.00	8.35

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (3541)
SPRR Bridges

1-49" x 32" HERCP Invert = 887.0' Top of RR = 896'
1550' East of Jackrabbit Trail
1820' West of Perryville Road BW = 15 SS = 0:1 LC = 3'
Invert = 891.9' Top of RR = 896.4'

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)		DISCHARGE (CFS)
887.0 = Invert 49" x 32" HERCP	0	0		0
	.24			
891.9 = Invert Bridge	.1	0.24		74
	17.67			
895 * Weir Flow Over RR at Jackrabbit Road	11.30	17.91	109 + 143	252
	22.6			
896	33.90	40.51	116 + 179 + 1170 =	1465

* Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 450
H = 1.0

Q at 896 = 1170 cfs

Form 209

CURRENT DATE: 02-11-1991
CURRENT TIME: 13:34:17

FILE DATE: 01-23-1991
FILE NAME: WT2

FHWA CULVERT ANALYSIS
HY-8, VERSION 3.2

CULV	SITE DATA			CULVERT SHAPE, MATERIAL, INLET				
	INLET ELEV. (FT)	OUTLET ELEV. (FT)	CULVERT LENGTH (FT)	BARRELS SHAPE MATERIAL	SPAN (FT)	RISE (FT)	MANNING n	INLET TYPE
1	887.00	886.95	30.00	1 RCPE	4.08	2.67	.012	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (CFS) FILE: WT2 DATE: 01-23-1991

ELEV (FT)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
887.00	0	0	0	0	0	0	0	0	1
893.83	100	100	0	0	0	0	0	0	1
895.39	400	113	0	0	0	0	0	286	7
895.54	600	114	0	0	0	0	0	480	4
895.67	800	116	0	0	0	0	0	681	4
895.79	1000	117	0	0	0	0	0	881	4
895.90	1200	117	0	0	0	0	0	1074	3
896.00	1400	116	0	0	0	0	0	1274	3
896.10	1600	114	0	0	0	0	0	1477	3
896.20	1800	112	0	0	0	0	0	1680	3
896.29	2000	109	0	0	0	0	0	1884	3
895.00	110	110	0	0	0	0	0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: WT2 DATE: 01-23-1991

HEAD ELEV(FT)	HEAD ERROR(FT)	TOTAL FLOW(CFS)	FLOW ERROR(CFS)	% FLOW ERROR
887.00	0.00	0	0	0.00
893.83	0.00	100	0	0.00
895.39	-0.00	400	1	0.26
895.54	-0.01	600	5	0.91
895.67	-0.01	800	4	0.47
895.79	-0.01	1000	2	0.25
895.90	-0.00	1200	9	0.75
896.00	-0.00	1400	10	0.72
896.10	-0.00	1600	9	0.58
896.20	-0.00	1800	8	0.45
896.29	-0.00	2000	7	0.34

<1> TOLERANCE (FT) = 0.010 <2> TOLERANCE (%) = 1.000

CURRENT DATE: 02-11-1991
CURRENT TIME: 13:34:17

FILE DATE: 01-23-1991
FILE NAME: WT2

CULVERT # 1

PERFORMANCE CURVE FOR 1 BARREL(S)

Q (cfs)	HWE (ft)	TWE (ft)	ICH (ft)	OCH (ft)	FLOW TYPE	CCE (ft)	FCE (ft)	TCE (ft)	VO (fps)
0	887.00	886.95	0.00	-0.05	0-NF	0.00	887.00	0.00	0.00
100	893.83	887.87	6.83	5.91	4-FF	0.00	0.00	0.00	11.36
113	895.27	889.04	8.27	6.88	4-FF	0.00	0.00	0.00	12.66
114	895.42	889.59	8.42	6.98	4-FF	0.00	0.00	0.00	12.80
116	895.54	890.07	8.54	7.51	4-FF	0.00	0.00	0.00	12.92
117	895.66	890.49	8.66	8.01	4-FF	0.00	0.00	0.00	13.03
117	895.74	890.88	8.74	8.45	4-FF	0.00	0.00	0.00	13.11
116	895.75	891.24	8.65	8.75	4-FF	0.00	0.00	0.00	13.22
114	895.89	891.57	8.36	8.89	4-FF	0.00	0.00	0.00	12.94
112	896.03	891.88	8.09	9.03	4-FF	0.00	0.00	0.00	12.67
109	896.16	892.18	7.83	9.16	4-FF	0.00	0.00	0.00	12.41

El. inlet face invert 887.00 ft El. outlet invert 886.95 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION (FT)	0.00
INLET ELEVATION (FT)	887.00
OUTLET STATION (FT)	30.00
OUTLET ELEVATION (FT)	886.95
NUMBER OF BARRELS	1.00
SLOPE (V-FT/H-FT)	0.0017
CULVERT LENGTH ALONG SLOPE (FT)	30.00

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	ELLIPTICAL
BARREL SPAN	49.00 FT
BARREL RISE	32.00 FT
BARREL MATERIAL	CONCRETE
BARREL MANNING'S N	0.012
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	SQ. EDGE WITH HEADWALL
INLET DEPRESSION	NONE

CURRENT DATE: 02-11-1991
CURRENT TIME: 13:34:17

FILE DATE: 01-23-1991
FILE NAME: WT2

TAILWATER

******* REGULAR CHANNEL CROSS SECTION **********

BOTTOM WIDTH (FT)	30.00
SIDE SLOPE H/V (X:1)	2.0
CHANNEL SLOPE V/H (FT/FT)	0.006
MANNING'S N (.01-0.1)	0.030
CHANNEL INVERT ELEVATION (FT)	886.95
CULVERT NO.1 OUTLET INVERT ELEVATION	886.95 FT

******* UNIFORM FLOW RATING CURVE FOR DOWNSTREAM CHANNEL

FLOW (CFS)	W.S.E. (FT)	FROUDE NUMBER	VEL. (FPS)	SHEAR (PSF)
0.00	886.95	0.000	0.00	0.00
100.00	887.87	0.626	3.41	0.33
400.00	889.04	0.684	5.61	0.76
600.00	889.59	0.698	6.44	0.96
800.00	890.07	0.706	7.08	1.13
1000.00	890.49	0.713	7.61	1.28
1200.00	890.88	0.717	8.07	1.42
1400.00	891.24	0.721	8.47	1.55
1600.00	891.57	0.724	8.83	1.67
1800.00	891.88	0.726	9.15	1.79
2000.00	892.18	0.728	9.45	1.89

ROADWAY OVERTOPPING DATA

ROADWAY SURFACE	GRAVEL
EMBANKMENT TOP WIDTH (FT)	20.00
CREST LENGTH (FT)	450.00
OVERTOPPING CREST ELEVATION (FT)	895.00

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	15.00
Culvert Rise (Height of Opening) (feet).....	1.50
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning`s Roughness Coefficient (n-value).....	0.0300
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	30.0
Culvert Slope (feet per foot).....	0.0050

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
143.0	1.50	2.77	3.11	1.50	1.41	1.50	6.36
179.0	1.50	3.65	4.11	1.50	1.50	1.50	7.96

==========

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 355

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
890.2	0	0	0
	3.80		
892	4.22	3.80	0
	57.62		
894	53.4	61.42	0
	27.18		
894.5 * Weir Flow	55.33	88.6	0
	28.14		
895	57.26	116.74	1011 cfs
	29.82		
895.5	62.0	146.56	3120 cfs
	33		
899	70.0	179.56	5732 cfs

Q at 899 = 1011 cfs

Q at 895.5 = 3120

Q at 899 = 5732

L = 2200/2
H = .5

L = 2400/2
H = 1.0

L = 2400/2
H = 1.5

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 355A

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
892.5	0	0	0
	16.98		
894	19.98	16.98	0
	8.10		
894.4 x Weir Flow	20.5	25.08	0
	12.45		
895	21.0	37.53	725

Weir Flow
$Q = C L H^{3/2}$

C = 2.6
L = 1200/2
H = .6

Q at 895 = 725 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 356 Bridge just at Peoriville Road BW = 6' Depth = 4' LC = 3'
SPRR Bridge Invert = 1094.5 Top of R = 1098.9

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
894.5 = Invert	0	0	0
	.22		
896	.3	.22	24
	18.58		
898	18.28	18.8	57
	22.87		
898.9 = Weir Flow	32.54	41.67	67
	20.56		
899.5	36.0	62.23	73 + 725 = 798
	20.25		
900	45.0	82.48	73 + 3000 = 3073
		Weir Flow	C = 2.6
		$Q = CLH^{3/2}$	L = 1200/2
			H = .6
		Q at 899.5 = 725 cfs	
		Q at 900 = 3000	L = 2000/2
			H = 1.1

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	6.00
Culvert Rise (Height of Opening) (feet).....	1.40
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning`s Roughness Coefficient (n-value).....	0.0300
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	30.0
Culvert Slope (feet per foot).....	0.0050

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
24.0	1.24	1.28	1.49	1.24	0.79	1.24	3.23
57.0	1.40	2.91	3.51	1.40	1.40	1.40	6.79
67.0	1.40	3.58	4.38	1.40	1.40	1.40	7.98
73.0	1.40	4.04	4.96	1.40	1.40	1.40	8.69

==========

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 357 + 359 Cactus Road Junction BW=6' SS=0:1 LC=3.2' D=4'
SPRR Bridge Invert = 894.5' Top of RR 901.7'

ELEV. (FT)	AREA (AC)		VOLUME (AC-FT)		DISCHARGE (CFS)
894.5 * Invert	0		0		0
		.17			
898	.1		.17		90
		39.96			
900	42.06		40.13		120
		93.39			
901.7 * Water over RR	67.81		133.48		242
		21.02			
902.0	72.35		154.54	253 + 684 =	937
		38.08			
902.5	80.0		192.63	253 + 1488 =	1741

$Q = CLH^{3/2}$ H = .8 C = 2.6
L = 600

Qat 902 = 684 cfs

Qat 902.5 = 1488 cfs = H = .8
L = 800

Form 209

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
February 11, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet).....	6.00
Culvert Rise (Height of Opening) (feet).....	4.00
FHWA Chart Number (8,9,10,11,12 or 13).....	8
Scale Number on Chart (Type of Culvert Entrance).....	1
Manning`s Roughness Coefficient (n-value).....	0.0300
Entrance Loss Coefficient of Culvert Opening.....	0.50
Culvert Length (feet).....	30.0
Culvert Slope (feet per foot).....	0.0050

==========

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
90.0	3.20	3.06	3.51	3.20	1.91	3.20	4.69
120.0	4.00	3.73	4.67	3.99	2.32	4.00	5.00
242.0	4.00	7.15	7.19	4.00	3.70	4.00	10.08
253.0	4.00	7.52	7.50	4.00	3.81	4.00	10.54

==========

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 358

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
892.5	0	0	0
	26.03		
894	34.71	26.03	0
	27.56		
894.7 * Weir Flow	44.02	53.59	0
	39.47		
895.5	54.65	93.06	837 cfs
	59.83		
896.5	65.0	152.89	5651 cfs
		Weir Flow	C = 2.6
		$Q = CLH^{3/2}$	L = 900/2
			H = .8
		Q at 895.5 = 837 cfs	
		Q at 896.5 = 5651	L = 1800/2
			H = 1.8

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 360

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
893.2	0	0	0
	6.01		
894	15.02	6.01	0
	13.06		
894.6 * Weir Flow West	28.50	19.07	0
	56.09		
896.0	51.64	75.17	1938 cfs

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 900/2
H = 1.4

Q at 896 = 1938 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 361

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
895.3	0	0	0
	1.54		
896	4.40	1.54	0
	40.4		
898 * Weir Flow	36.0	41.94	0
	23.57		
898.5	58.29	65.51	253 cfs

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 580/2
H = .5

Q at 898.5 = 253 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 367

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
899.1	0	0	0
	1.34		
900	2.98	1.34	0
	38.21		
901.8 * Weir Flow Across Canal	39.48	39.55	0
	8.30		
902	43.53	47.85	47
	29		
902.5	72.47	76.85	761
	93.82		
903.5	115.17	170.67	10373 cfs
		Weir Flow	C = 2.6
			H = .2
		Q at 902 = 47 cfs	L = 400/2
		Q at 902.5 = 761	C = 2.6
			H = .7
			L = 1000/2
		Q at 903.5 = 10373	H = 1.7
			L = 3000/2

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-30-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN (364)

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
908	0	0	0
910	0.91	.91	0
	3.74		
911 x Weir Flow South	6.57	4.65	0
	2.23		
911.3 x Weir Flow West	8.27	6.88	21
	7.18		
912	12.23	14.06	163 + 343 = 506 cfs
	8.14		
912.5	20.31	22.19	597 + 3589 = 4186 cfs
	11.33		1103 + 6051 = 7154 cfs
913.0	25.0	33.52	C = 2.6

Weir Flow South

$Q = CLH^{3/2}$

Qat 911.3 = 21 cfs L = 50 H = .3

Qat 912 = 163 cfs L = 125/2 H = 1.0

Qat 912.5 = 597 cfs L = 350/2 H = 1.5

Qat 913 = 1103 cfs L = 300/2 H = 2.0

C = 2.6

Weir Flow West

Qat 912 = 343 cfs L = 450/2 H = .7

Qat 912.5 = 3589 cfs L = 2100/2 H = 1.2

Qat 913 = 6051 cfs L = 2100/2 H = 1.7

Form 209

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-30-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 368

ELEV. (FT)		AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
914		0	0	0
		1.84		
916		1.84	1.84	0
		5.98		
916.9	* Weir Flow South Over Canal	11.44	7.82	0
		19.04		
918		23.17	26.86	247
		146.77		
920		123.6	173.63	6031 cfs
			Weir Flow	C = 2.6
			$Q = CLH^{3/2}$	L = 165/2
				H = 1.1
			Q at 918 = 247 cfs	
				L = 850/2
			Q at 920 = 6031 cfs	H = 3.1

Form 209

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COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-29-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 377

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
892.2	0	0	0
	38.24		
894.	42.60	38.24	0
	50.57		
895.1 * Weir flow South	49.35	88.81	0
	46.90		
896.	54.87	135.71	1332

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 100/2
H = .9

Q at 896 = 1332 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-30-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 379

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
858.7	0	0	0
	.38		
860	.59	.38	0
	6.84		
860.7 * Weir Flow West	18.95	7.22	0
	58.80		
862	76.51	66.02	4817

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 200/2
H = 1.3

Q at 862 = 4817 cfs

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-30-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 381

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
866.3	0	0	0
	1122		
866.9 * Weir Flow Weaf	37.4	1122	0
	78.87		
868	106.0	90.09	2174
			C = 2.6
		Weir Flow	L = 1450/2
		$Q = CLH^{3/2}$	H = 1.0
		Q at 868 = 2174	

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 1-30-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 381A

ELEV. (FT)	AREA (AC)	VOLUME (AC-FT)	DISCHARGE (CFS)
864.7	0	0	0
	13.51		
866	20.79	13.51	0
	60.93		
867.8 * Weir Flow North	46.91	74.44	0
	9.67		
868	49.81	84.11	11
	50.41		
869	51.0	134.52	1196

Weir Flow
$Q = CLH^{3/2}$

C = 2.6
L = 50
H = .2

Qat 868 = 11 cfs

L = 700/2
H = 1.2

Qat 869 1196

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 41A1

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT 1D303

DI	0	14	23	33	869	6050
DQ	0	14	23	33	35	42

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 41A2

SEE STAGE-STORAGE-DISCHARGE TABLE FOR DIVERT DATA

DT 2D 303

DI	0	8	19	24	624	2104
DQ	0	8	19	24	30	36

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 41A3

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT 30 303

DI	0	10	14	18	23	29	32	254	659	1896
DQ	0	10	14	18	23	29	32	33	34	35

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 4A

SEE STAGE-STORAGE-DISCHARGE TABLE FOR DIVERT DATA

DT 40303

DI	0	10	36	44	45	312	799	1429	2047
DQ	0	10	36	44	45	47	49	51	52

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22 91

DIVERSION TABLES

SUBBASIN 41-1

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT 5D303

DI	0	10	36	44	489	1300	2348
DQ	0	10	36	44	47	50	52

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 41-2

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT 6D303

DI	0	10	14	18	23	29	35	42	50	56	201	419	469	1836
DQ	0	10	14	18	23	29	35	42	50	56	59	61	64	68

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 41

SEE STAGE-STORAGE-DISCHARGE TABLE FOR DIVERT DATA

DT 70 303

DI	0	8	11	15	24	30	36	42	43	400	1219
DQ	0	8	11	15	24	30	36	42	43	46	50

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 43-1

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT 1D 303A

DI	0	32	60	102	120	220	260	301	357	501	1057
DQ	0	32	60	102	120	220	260	301	357	378	417

Form 200

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 43-2

SEE STAGE-STORAGE-DISCHARGE TABLE FOR DIVERT DATA

DT 20303A

DI	0	8	12	15	20	24	36	38	128	222
DQ	0	8	12	15	20	24	36	38	40	43

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 43-3

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT 30 303 A

DI	0	27	36	48	63	78	93	165	364	951
DQ	0	0	0	0	0	0	0	63	250	816

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 43-4

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT DI43-4

DI	0	18	24	32	42	52	62	131	326	906
DQ	0	18	24	32	42	52	62	68	76	90

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 43-5

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT DI43-5

DI	0	9	13	17	22	27	34	40	42	44	134	276
DQ	0	9	13	17	22	27	34	40	42	44	46	48

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 43-6

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT DI43-6

DI	0	9	13	17	22	27	33	39	47	55	56	141	325	811	1440	27HH
DQ	0	9	13	17	22	27	33	39	47	55	56	58	60	61	62	64

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 43-7

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT DI43-7

DI	0	10	13	18	23	29	35	38	101	892
DQ	0	10	13	18	23	29	35	38	40	42

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 43-8

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT DI 43-8

DI	0	8	12	15	20	24	30	36	39	129	186
DQ	0	8	12	15	20	24	30	36	39	41	43

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 43

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT DI43

DI	0	920	1824	2976	3396	3713	4176	4734	6464
DQ	0	0	0	0	0	177	500	918	2096

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 45-1

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT DI45-1

DI	0	51	156	1200	3130	4161	5509
DQ	0	51	156	305	480	543	610

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 45

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT DI45

DI	0	41	132	317	1462	3517
DQ	0	41	132	317	362	392

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 46-1

SEE STAGE - STORAGE - DISCHARGE TABLE FOR DIVERT DATA

DT DI46-1

DI	0	39	128	183	199	610	1351	2310
DQ	0	39	128	183	199	210	225	244

Form 209

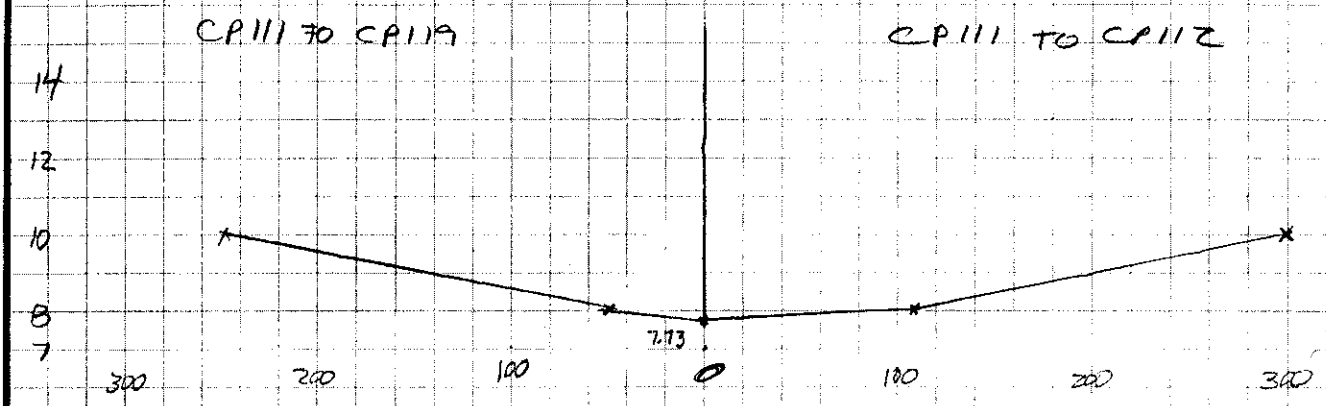
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS/AGUA FRIA ADMS Prepared by JSE Date 11-28-90

DIVERSION TABLES

INTERSECTION OF BELL RD & CITRUS RD.



BELL RD (WEST) DIVERSION

INT.

CITRUS RD (NORTH) REMAINDER

S= .004 1/1

S= .005 1/1

DT DI119

DI	0	32	109	228	389	599	858	1170	1539	1967
DQ	0	11	39	83	145	228	333	462	617	799

Form 209

CP111 to CP112

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
November 28, 1990

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0050
Manning's Roughness Coefficient (n-value).....	0.0350
Channel Side Slope - Left Side (horizontal/vertical)....	100.00
Channel Side Slope - Right Side (horizontal/vertical)...	0.00
Channel Bottom Width (feet).....	100.0

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.2	21.3	0.97	0.398	0.015	0.215	22.0	120.0
0.4	70.5	1.47	0.442	0.033	0.433	48.0	140.0
0.6	144.7	1.85	0.468	0.053	0.653	78.0	160.0
0.8	244.3	2.18	0.487	0.074	0.874	112.0	180.0
1.0	370.5	2.47	0.503	0.095	1.095	150.0	200.0
1.2	524.5	2.73	0.515	0.116	1.316	192.0	220.0
1.4	707.8	2.97	0.526	0.137	1.537	238.0	240.0
1.6	921.8	3.20	0.536	0.159	1.759	288.0	260.0
1.8	1168.5	3.42	0.545	0.181	1.981	342.0	280.0
2.0	1448.3	3.62	0.553	0.204	2.204	400.0	300.0
2.2	1763.6	3.82	0.560	0.226	2.426	462.0	320.0

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092
(713) 895-8322. A manual with equations & flow chart is available.

CP111 to CP119

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
November 28, 1990

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0050
Manning's Roughness Coefficient (n-value).....	0.0350
Channel Side Slope - Left Side (horizontal/vertical)....	0.00
Channel Side Slope - Right Side (horizontal/vertical)...	100.00
Channel Bottom Width (feet).....	50.0

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.2	11.1	0.92	0.394	0.013	0.213	12.0	70.0
0.4	38.5	1.37	0.434	0.029	0.429	28.0	90.0
0.6	82.6	1.72	0.459	0.046	0.646	48.0	110.0
0.8	145.2	2.02	0.477	0.063	0.863	72.0	130.0
1.0	228.1	2.28	0.492	0.081	1.081	100.0	150.0
1.2	333.2	2.52	0.505	0.099	1.299	132.0	170.0
1.4	462.4	2.75	0.516	0.118	1.518	168.0	190.0
1.6	617.3	2.97	0.526	0.137	1.737	208.0	210.0
1.8	799.9	3.17	0.534	0.156	1.956	252.0	230.0
2.0	1011.6	3.37	0.542	0.177	2.177	300.0	250.0
2.2	1254.3	3.56	0.550	0.197	2.397	352.0	270.0

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092
(713) 895-8322. A manual with equations & flow chart is available.

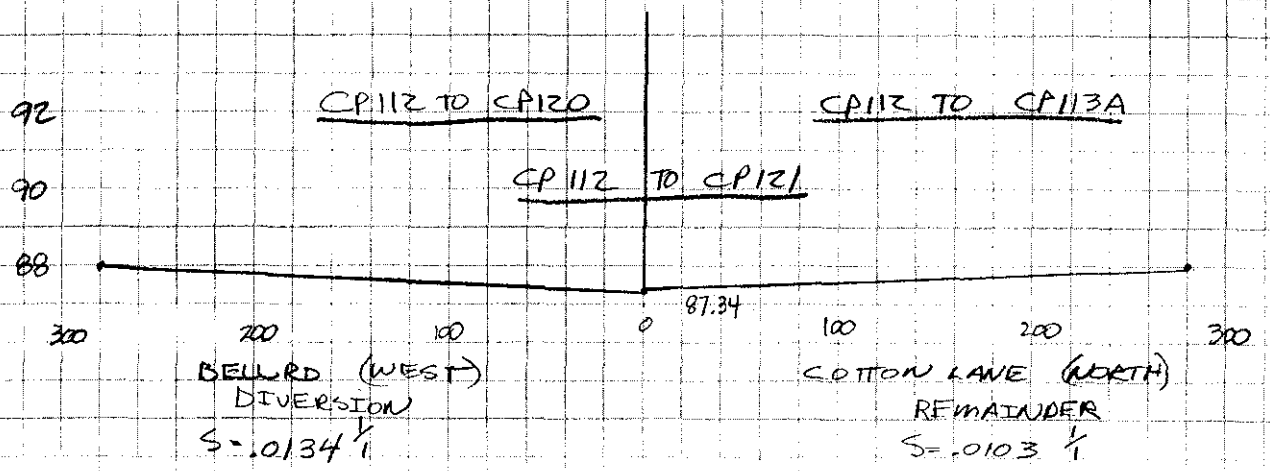
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 11-28-90

DIVERSION TABLES

INTERSECTION OF BELLRD AND COTTON LANE



Since this is a fairly uniform cross section, we will assume ≡ a 1/3 split for each branch

DT	DI120							
DI	0	48	165	355	625	981	1434	1990
DQ	0	16	55	118	208	327	478	663

DT	1D121							
DI	0	32	110	237	417	654	956	1327
DQ	0	16	55	118	208	327	478	663

CP112 TO CP120

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0134
Manning's Roughness Coefficient (n-value)	.025
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	25.4	2.12	0.902	0.07	0.27	12.00	70.00
0.40	88.2	3.15	0.995	0.15	0.55	28.00	90.00
0.60	189.3	3.94	1.052	0.24	0.84	48.00	110.00
0.80	332.7	4.62	1.094	0.33	1.13	72.00	130.00
1.00	522.8	5.23	1.128	0.42	1.42	100.00	150.00
1.20	763.7	5.79	1.157	0.52	1.72	132.00	170.00
1.40	1059.7	6.31	1.182	0.62	2.02	168.00	190.00
1.60	1414.9	6.80	1.204	0.72	2.32	208.00	210.00

CP112 TO CP113A

Enter Depth of Flow, or Press the (Esc) Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0103
Manning's Roughness Coefficient (n-value)	.025
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	22.3	1.86	0.791	0.05	0.25	12.00	70.00
0.40	77.3	2.76	0.872	0.12	0.52	28.00	90.00
0.60	166.0	3.46	0.922	0.19	0.79	48.00	110.00
0.80	291.7	4.05	0.959	0.25	1.05	72.00	130.00
1.00	458.3	4.58	0.989	0.33	1.33	100.00	150.00
1.20	669.5	5.07	1.014	0.40	1.60	132.00	170.00
1.40	929.1	5.53	1.036	0.47	1.87	168.00	190.00
1.60	1240.5	5.96	1.056	0.55	2.15	208.00	210.00

Enter Depth of Flow, or Press the (Esc) Key to End

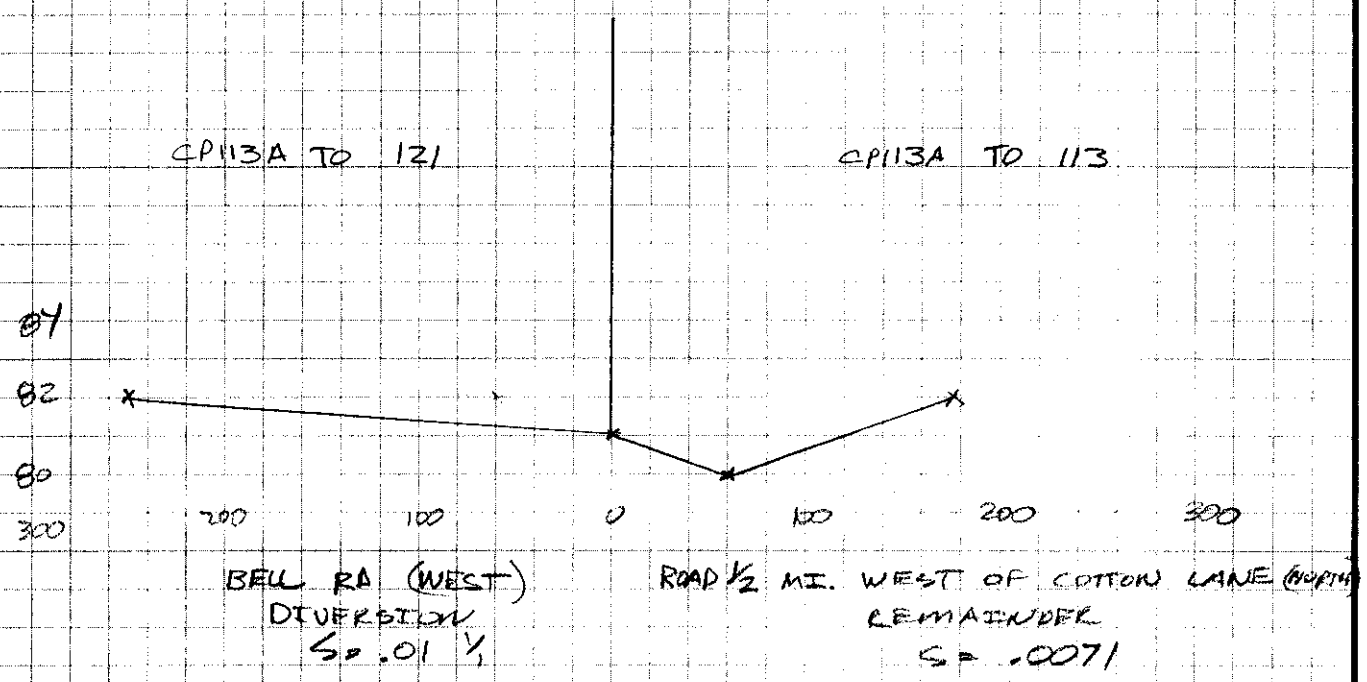
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 11-29-90

DIVERSION TABLES

BELL RD. ½ MILE WEST OF COTTON LANE



DT	2D 121									
DI	0	26	67	134	232	278	399	561	799	1106
DQ	0	0	0	0	0	4	22	58	120	211

Composite Channel Section
CP113A TO CP113

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0071
Manning's Roughness Coefficient (n-value)	.025
Channel Side Slope - Left Side (horizontal/vertical)	60
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	120

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	41.8	1.66	0.669	0.04	0.24	25.20	132.00
0.40	135.2	2.56	0.745	0.10	0.50	52.80	144.00
0.60	271.2	3.27	0.792	0.17	0.77	82.80	156.00
0.80	447.2	3.88	0.826	0.23	1.03	115.20	168.00
1.00	662.8	4.42	0.853	0.30	1.30	150.00	180.00

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0071
Manning's Roughness Coefficient (n-value)	.025
Channel Side Slope - Left Side (horizontal/vertical)	60
Channel Side Slope - Right Side (horizontal/vertical)	60
Channel Bottom Width (feet)	10

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	5.6	1.28	0.628	0.03	0.23	4.40	34.00
0.40	25.9	1.90	0.693	0.06	0.46	13.60	58.00
0.60	66.9	2.42	0.736	0.09	0.69	27.60	82.00
0.80	134.0	2.89	0.769	0.13	0.93	46.40	106.00
1.00	232.0	3.31	0.796	0.17	1.17	70.00	130.00

Enter Depth of Flow, or Press the <Esc> Key to End

CP 113A TO 121

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning's Roughness Coefficient (n-value)	.025
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	4.3	1.44	0.732	0.03	0.23	3.00	25.00
0.40	21.7	2.17	0.810	0.07	0.47	10.00	45.00
0.60	58.4	2.78	0.862	0.12	0.72	21.00	65.00
0.80	119.9	3.33	0.902	0.17	0.97	36.00	85.00
1.00	211.1	3.84	0.935	0.23	1.23	55.00	105.00

Enter Depth of Flow, or Press the <Esc> Key to End

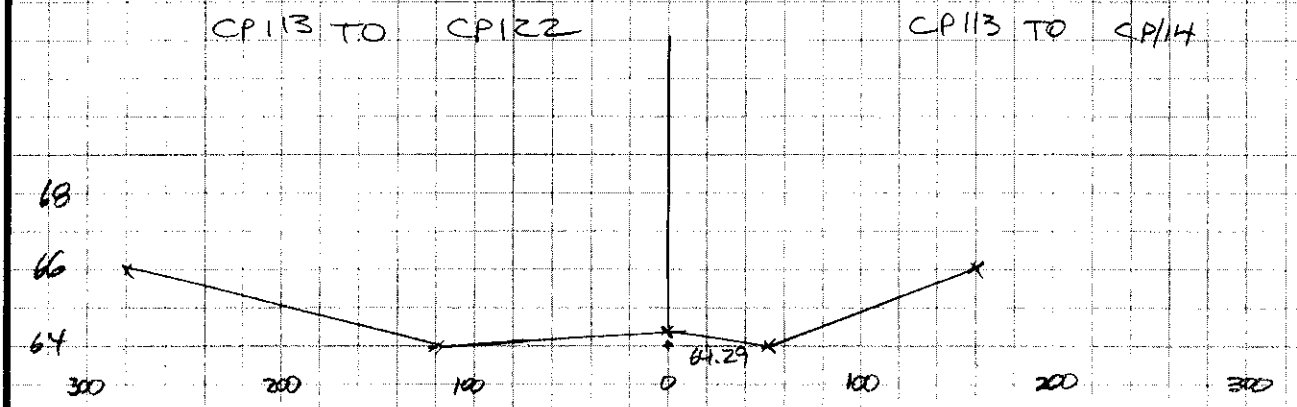
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 11-29-90

DIVERSION TABLES

INTERSECTION OF BELL RD. AND SARIVAL AVE.



BELL RD (WEST)
DIVERSION
S=.016 1/1

SARIVAL AVE. (NORTH)
REMAINDER
S=.0056 1/1

DT	1D122						
DI	0	79	257	523	872	1307	1829
DQ	0	63	205	416	692	1033	1422

CP113 TO CP114

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .0056
Manning's Roughness Coefficient (n-value) .025
Channel Side Slope - Left Side (horizontal/vertical) 50
Channel Side Slope - Right Side (horizontal/vertical) 0
Channel Bottom Width (feet) 50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	15.8	1.43	0.589	0.03	0.23	11.00	60.00
0.40	52.1	2.17	0.653	0.07	0.47	24.00	70.00
0.60	106.9	2.74	0.692	0.12	0.72	39.00	80.00
0.80	180.5	3.22	0.720	0.16	0.96	56.00	90.00
1.00	273.5	3.65	0.742	0.21	1.21	75.00	100.00
1.20	387.1	4.03	0.761	0.25	1.45	96.00	110.00
1.40	522.3	4.39	0.777	0.30	1.70	119.00	120.00
1.60	680.1	4.72	0.791	0.35	1.95	144.00	130.00

CP113 TO CP122

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .016
Manning's Roughness Coefficient (n-value) .025
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 80
Channel Bottom Width (feet) 120

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	63.2	2.47	1.002	0.09	0.29	25.60	136.00
0.40	205.8	3.78	1.114	0.22	0.62	54.40	152.00
0.60	416.0	4.81	1.183	0.36	0.96	86.40	168.00
0.80	691.6	5.69	1.233	0.50	1.30	121.60	184.00
1.00	1033.2	6.46	1.272	0.65	1.65	160.00	200.00
1.20	1442.2	7.15	1.305	0.79	1.99	201.60	216.00
1.40	1920.7	7.80	1.333	0.94	2.34	246.40	232.00
1.60	2470.9	8.39	1.358	1.09	2.69	294.40	248.00

Enter Depth of Flow, or Press the <Esc> Key to End

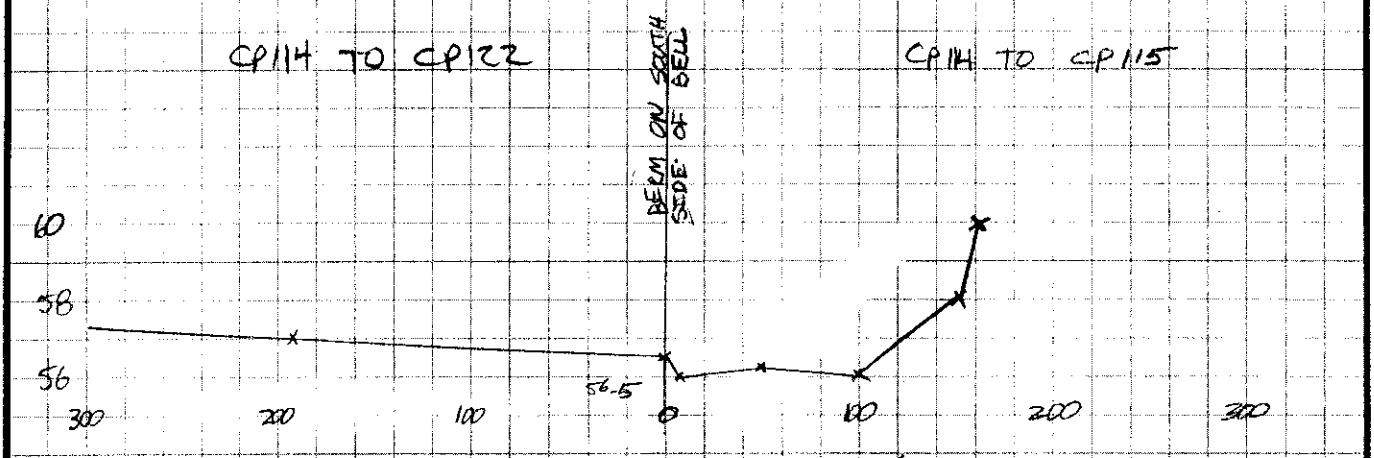
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 11-30-90

DIVERSION TABLES

BELL ROAD AND 2000 FEET EAST OF SARIVAL AV.



BELL RD. (WEST)
SOUTH OF BELL ON BERM
DIVERSION
WIER FLOW

2000' EAST OF SARIVAL AVE. (NORTH)
REMAINDER
S= .0033 1/1

DT 20122

DI	0	17	54	80	333	952	2066
DQ	0	0	0	0	70	438	1217

Weir Flow Over Berm

$Q = CLH^{3/2}$ C= 2.5

H=.5	Q= 79	L= 90
H=1.0	Q= 438	L= 175
H=1.5	Q= 1217	L= 265

CP 114 TO CP 115

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0033
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	25
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	16.8	0.82	0.327	0.01	0.21	20.50	105.00
0.40	53.8	1.28	0.365	0.03	0.43	42.00	110.00
0.60	106.6	1.65	0.389	0.04	0.64	64.50	115.00
0.80	173.8	1.97	0.406	0.06	0.86	88.00	120.00
1.00	254.4	2.26	0.420	0.08	1.08	112.50	125.00
1.20	348.1	2.52	0.431	0.10	1.30	138.00	130.00
1.40	454.5	2.76	0.441	0.12	1.52	164.50	135.00
1.60	573.6	2.99	0.450	0.14	1.74	192.00	140.00
1.80	705.2	3.20	0.457	0.16	1.96	220.50	145.00
2.00	849.4	3.40	0.464	0.18	2.18	250.00	150.00

Enter Depth of Flow, or Press the <Esc> Key to End

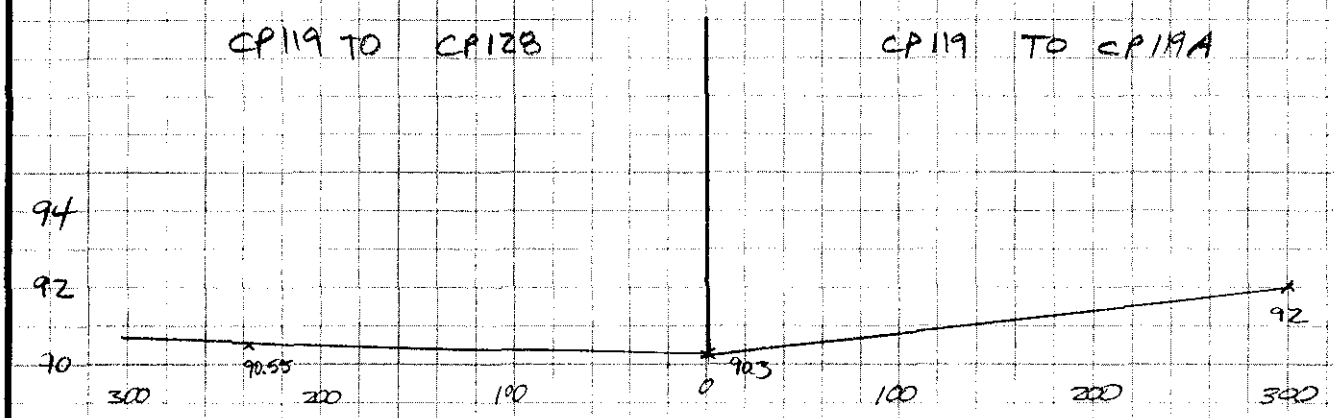
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 11-30-90

DIVERSION TABLES

CITRUS ROAD AND GREENWAY ROAD



GREENWAY ROAD (WEST)
DIVERSION
S= .0067 1/1

CITRUS RD (NORTH)
REMAINDER
S= .0053 1/1

DT	DI 128							
DI	0	42	139	286	485	739	1052	1425
DQ	0	25	81	167	283	429	607	819

Form 200

CP119 TO CP128

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .0067
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 100
Channel Bottom Width (feet) 100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	24.6	1.12	0.461	0.02	0.22	22.00	120.00
0.40	81.6	1.70	0.511	0.04	0.44	48.00	140.00
0.60	167.5	2.15	0.542	0.07	0.67	78.00	160.00
0.80	282.8	2.53	0.564	0.10	0.90	112.00	180.00
1.00	428.9	2.86	0.582	0.13	1.13	150.00	200.00
1.20	607.1	3.16	0.597	0.16	1.36	192.00	220.00
1.40	819.3	3.44	0.609	0.18	1.58	238.00	240.00
1.60	1067.1	3.71	0.620	0.21	1.81	288.00	260.00

CP119 TO CP119A

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .0053
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 100
Channel Side Slope - Right Side (horizontal/vertical) 0
Channel Bottom Width (feet) 76

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	16.9	0.98	0.408	0.01	0.21	17.20	96.00
0.40	56.7	1.48	0.452	0.03	0.43	38.40	116.00
0.60	118.1	1.86	0.478	0.05	0.65	63.60	136.00
0.80	202.2	2.18	0.498	0.07	0.87	92.80	156.00
1.00	310.5	2.46	0.513	0.09	1.09	126.00	176.00
1.20	444.6	2.72	0.526	0.12	1.32	163.20	196.00
1.40	606.3	2.97	0.537	0.14	1.54	204.40	216.00
1.60	797.2	3.19	0.547	0.16	1.76	249.60	236.00

Enter Depth of Flow, or Press the <Esc> Key to End

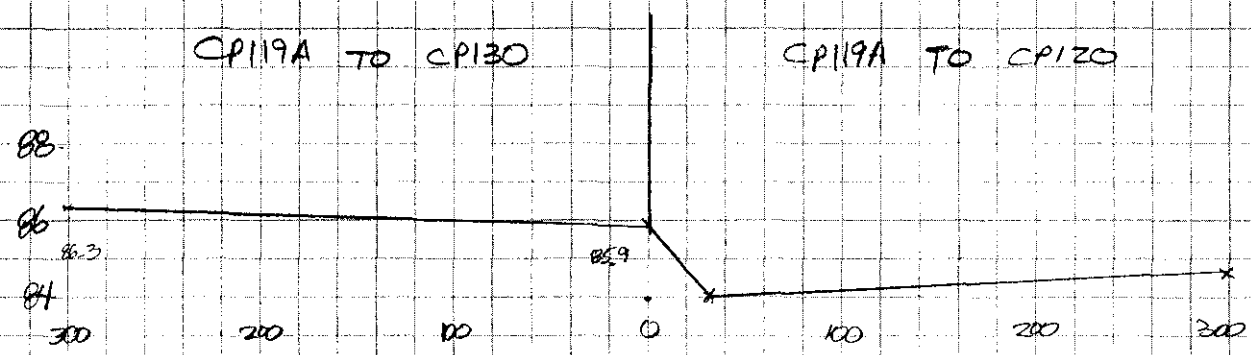
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 11-30-90

DIVERSION TABLES

GREENWAY ROAD AND ½ MILE EAST OF CITRUS RD.



GREENWAY ROAD (WEST) DIVERSION S= .0033 1/1

½ MILE EAST OF CITRUS ROAD REMAINDER S= -.0067 1/1

DT DI 130

DI	0	13	46	100	177	281	413	577	774	1007	1279
DQ	0	0	0	0	0	0	0	0	0	0	0
DI	1600	1978									
DQ	9	31									

CP119A TO CP130

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .0033
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 100
Channel Bottom Width (feet) 50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	9.0	0.75	0.320	0.01	0.21	12.00	70.00
0.40	31.3	1.12	0.353	0.02	0.42	28.00	90.00
0.60	67.1	1.40	0.373	0.03	0.63	48.00	110.00
0.80	117.9	1.64	0.388	0.04	0.84	72.00	130.00
1.00	185.3	1.85	0.400	0.05	1.05	100.00	150.00
1.20	270.7	2.05	0.410	0.07	1.27	132.00	170.00
1.40	375.6	2.24	0.419	0.08	1.48	168.00	190.00
1.60	501.5	2.41	0.427	0.09	1.69	208.00	210.00

CP119A TO CP120

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .0067
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 100
Channel Side Slope - Right Side (horizontal/vertical) 15
Channel Bottom Width (feet) 50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	13.0	1.06	0.455	0.02	0.22	12.30	73.00
0.40	45.9	1.57	0.502	0.04	0.44	29.20	96.00
0.60	99.8	1.97	0.531	0.06	0.66	50.70	119.00
0.80	177.1	2.31	0.553	0.08	0.88	76.80	142.00
1.00	280.7	2.61	0.570	0.11	1.11	107.50	165.00
1.20	413.1	2.89	0.585	0.13	1.33	142.80	188.00
1.40	576.7	3.16	0.598	0.15	1.55	182.70	211.00
1.60	774.1	3.41	0.609	0.18	1.78	227.20	234.00
1.80	1007.5	3.65	0.620	0.21	2.01	276.30	257.00
2.00	1279.4	3.88	0.629	0.23	2.23	330.00	280.00
2.20	1591.8	4.10	0.638	0.26	2.46	388.30	303.00
2.40	1947.0	4.32	0.646	0.29	2.69	451.20	326.00

Enter Depth of Flow, or Press the <Esc> Key to End

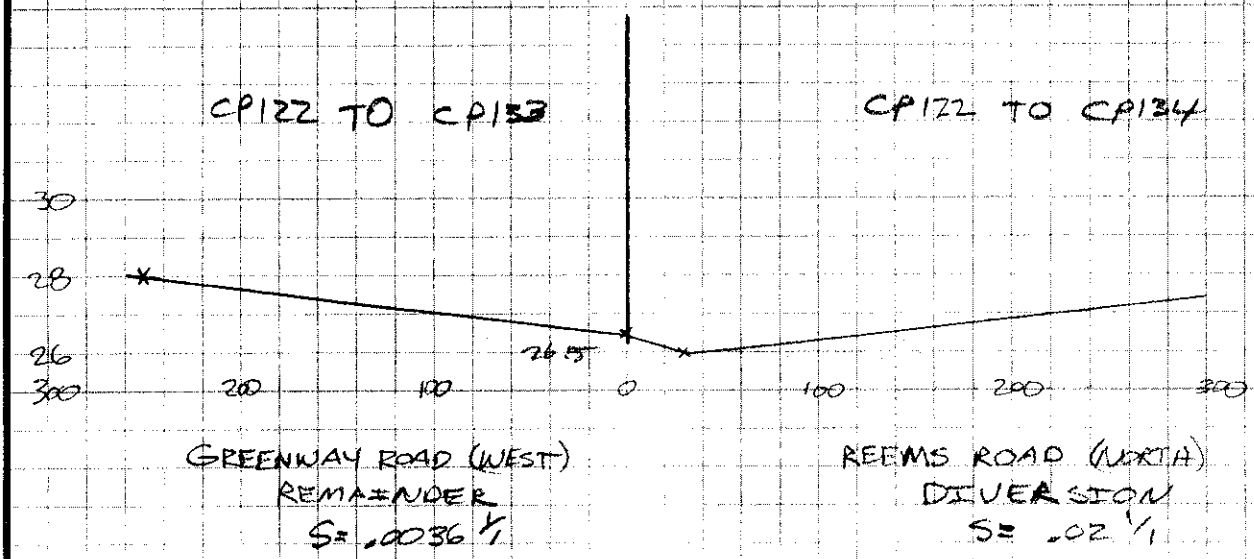
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 11-30-90

DIVERSION TABLE

GREENWAY ROAD AND REEMS ROAD



DT	DI134										
DI	0	6	32	56	117	259	471	757	1120	1562	2087
DQ	0	0	0	0	115	249	446	706	1030	1418	1873

Form 209

CP 122 TO CP 134 LOW FLOW

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .02
Manning°s Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 100
Channel Side Slope - Right Side (horizontal/vertical) 60
Channel Bottom Width (feet) 5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	5.9	1.41	0.736	0.03	0.23	4.20	37.00
0.40	31.8	2.15	0.819	0.07	0.47	14.80	69.00
0.50	55.7	2.48	0.848	0.10	0.60	22.50	85.00

CP 122 TO CP 134 FLOW ABOVE .5'

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .02
Manning°s Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 100
Channel Side Slope - Right Side (horizontal/vertical) 0
Channel Bottom Width (feet) 140

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	59.0	1.97	0.800	0.06	0.26	30.00	160.00
0.40	192.6	3.01	0.889	0.14	0.54	64.00	180.00
0.60	390.2	3.83	0.944	0.23	0.83	102.00	200.00
0.80	650.2	4.52	0.984	0.32	1.12	144.00	220.00
1.00	973.6	5.12	1.015	0.41	1.41	190.00	240.00
1.20	1362.0	5.67	1.041	0.50	1.70	240.00	260.00
1.40	1817.6	6.18	1.063	0.59	1.99	294.00	280.00
1.60	2342.8	6.66	1.083	0.69	2.29	352.00	300.00

CP 122 TO CP 133

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .0036
Manning°s Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 100
Channel Bottom Width (feet) 5

*** RESULTS ***

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0036
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	1.8	0.62	0.314	0.01	0.21	3.00	25.00
0.40	9.3	0.93	0.347	0.01	0.41	10.00	45.00
0.60	25.0	1.19	0.370	0.02	0.62	21.00	65.00
0.80	51.4	1.43	0.387	0.03	0.83	36.00	85.00
1.00	90.5	1.64	0.401	0.04	1.04	55.00	105.00
1.20	144.2	1.85	0.412	0.05	1.25	78.00	125.00
1.40	214.3	2.04	0.423	0.06	1.46	105.00	145.00
1.60	302.6	2.23	0.432	0.08	1.68	136.00	165.00
1.80	410.7	2.40	0.440	0.09	1.89	171.00	185.00

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

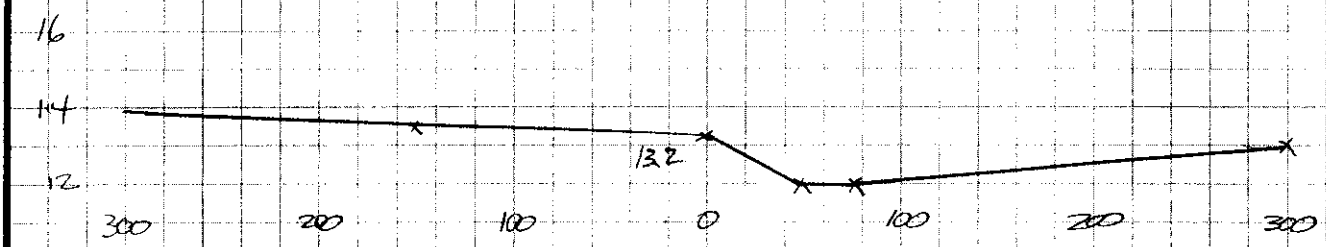
COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 11-30-90

DIVERSION TABLE

GREENWAY ROAD AND ½ MILE EAST OF REEMS ROAD

CP123 TO CP134 CP123 TO CP124



GREENWAY ROAD (WEST) REMAINDER S = .016 %

½ MILE EAST OF REEMS ROAD DIVERSION S = -.0128 %

DT DI124

DI	0	94	177	293	448	683	1014	1440	1964	~~573~~
DQ	0	94	177	293	448	448	448	448	448	448

Form 209

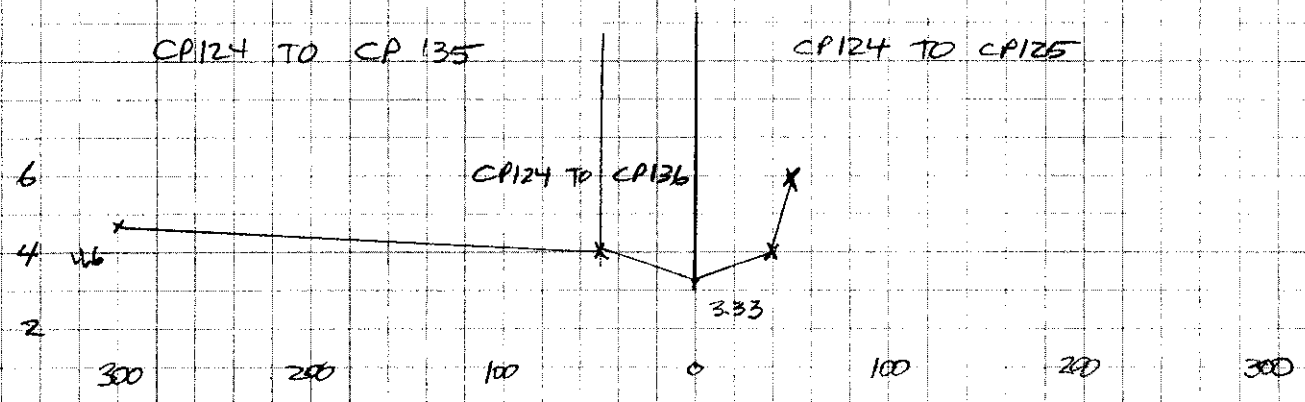
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 11-30-90

DIVERSION TABLES

GREENWAY ROAD AND BULLARD AVE



GREENWAY ROAD (WEST) REMAINDER — INT. DIVERSION ① — BULLARD AVE. (NORTH) DIVERSION ②

S= .0050 1/1 — S=.01 1/1 — S=.0061 1/1

DT DI 136

DI	0	42	84	232	605	1435	2923
DQ	0	25	51	128	292	519	798

DT DI 125

DI	0	17	33	104	313	916	2125
DQ	0	17	33	82	189	341	534

Form 209

CP123 TO CP124

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0128
Manning`s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	25
Channel Bottom Width (feet)	25

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.60	93.7	2.50	0.719	0.10	0.70	37.50	100.00
0.80	176.7	2.94	0.749	0.13	0.93	60.00	125.00
1.00	293.4	3.35	0.774	0.17	1.17	87.50	150.00
1.20	448.2	3.73	0.795	0.22	1.42	120.00	175.00
1.40	645.1	4.10	0.813	0.26	1.66	157.50	200.00
1.60	888.0	4.44	0.830	0.31	1.91	200.00	225.00
1.80	1180.8	4.77	0.845	0.35	2.15	247.50	250.00
2.00	1526.9	5.09	0.859	0.40	2.40	300.00	275.00
2.20	1930.0	5.40	0.871	0.45	2.65	357.50	300.00
2.40	2393.3	5.70	0.883	0.50	2.90	420.00	325.00
2.60	2920.2	5.99	0.894	0.56	3.16	487.50	350.00
2.80	3513.9	6.27	0.905	0.61	3.41	560.00	375.00
3.00	4177.6	6.55	0.915	0.67	3.67	637.50	400.00

Enter Depth of Flow, or Press the <Esc> Key to End

CP123 TO CP134

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning`s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.20	38.1	1.73	0.713	0.05	0.25	22.00	120.00
0.40	126.0	2.63	0.790	0.11	0.51	48.00	140.00
0.60	258.8	3.32	0.838	0.17	0.77	78.00	160.00
0.80	437.1	3.90	0.872	0.24	1.04	112.00	180.00
1.00	662.8	4.42	0.899	0.30	1.30	150.00	200.00
1.20	938.2	4.89	0.922	0.37	1.57	192.00	220.00
1.40	1266.1	5.32	0.941	0.44	1.84	238.00	240.00
1.60	1649.0	5.73	0.959	0.51	2.11	288.00	260.00
1.80	2089.7	6.11	0.974	0.58	2.38	342.00	280.00

Enter Depth of Flow, or Press the <Esc> Key to End

CP124 TO CP135

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	22.0	1.46	0.494	0.03	0.53	15.00	55.00	4.5	22
1.00	124.4	2.26	0.551	0.08	1.08	55.00	105.00	5.0	124

CP124 TO CP135

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	400

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	451.0	2.12	0.544	0.07	0.57	212.50	450.00	5.5	575
1.00	1467.3	3.26	0.606	0.17	1.17	450.00	500.00	6.0	1591
1.50	2960.2	4.15	0.643	0.27	1.77	712.50	550.00	6.5	3084
2.00	4912.6	4.91	0.671	0.37	2.37	1000.00	600.00	7.0	5036
2.50	7325.2	5.58	0.692	0.48	2.98	1312.50	650.00	7.5	7449

Enter Depth of Flow, or Press the <Esc> Key to End

CP124 TO CP125

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0061
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	60
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	16.6	1.66	0.548	0.04	0.54	10.00	35.00	3.83	17
0.67	33.3	1.98	0.572	0.06	0.73	16.82	45.20	4.0	33

CP124 TO CP125

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0061
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	5
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	40

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	48.9	2.37	0.599	0.09	0.59	20.63	42.50	4.5	82
1.00	155.7	3.66	0.665	0.21	1.21	42.50	45.00	5.0	189
1.50	307.8	4.69	0.703	0.34	1.84	65.63	47.50	5.5	341
2.00	500.6	5.56	0.731	0.48	2.48	90.00	50.00	6.0	534

Enter Depth of Flow, or Press the <Esc> Key to End

CP 124 TO CP 136

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	75
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	24.9	2.10	0.700	0.07	0.57	11.88	42.50	3.83	25
0.67	50.7	2.51	0.732	0.10	0.77	20.18	55.25	4.0	51

CP 124 TO CP 136

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	77.0	3.08	0.767	0.15	0.65	25.00	50.00	4.5	128
1.00	241.3	4.83	0.850	0.36	1.36	50.00	50.00	5.0	292
1.50	468.3	6.24	0.898	0.61	2.11	75.00	50.00	5.5	579
2.00	747.0	7.47	0.931	0.87	2.87	100.00	50.00	6.0	798

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

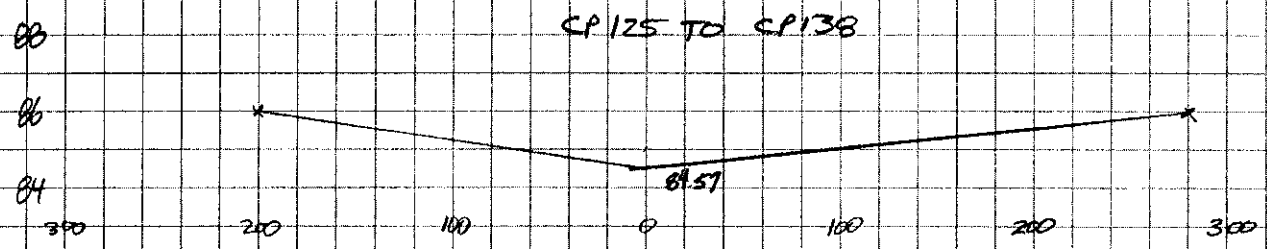
Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

GREENWAY ROAD AND LITCHFIELD ROAD

CP125 TO CP137 CP125 TO CP126

CP125 TO CP138



GREENWAY ROAD (WEST) REMAINDER S=.0044 1/1

LITCHFIELD ROAD (NORTH) DIVERSION S=.0044 1/1

This is a fairly uniform cross section therefore a 1/3 split is assumed in each direction.

DT DI126

DI	0	29	228	748	1285	2526	4403	6923	10115
DQ	0	10	76	249	428	842	1468	2308	3372

DT DI138

DI	0	19	152	499	857	1684	2935	4615	6743
DQ	0	10	76	249	428	842	1468	2308	3372

Form 209

CP125 TO CP137, CP125 TO CP138, and CP125 TO CP126

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	500

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	537.1	1.95	0.508	0.06	0.56	275.00	600.00	86.5	1285
1.00	1778.9	2.96	0.564	0.14	1.14	600.00	700.00	87.0	2526
1.50	3655.1	3.75	0.598	0.22	1.72	975.00	800.00	87.5	4403
2.00	6175.5	4.41	0.623	0.30	2.30	1400.00	900.00	88.0	6923
2.50	9367.4	5.00	0.643	0.39	2.89	1875.00	1000.00	88.5	10115

Enter Depth of Flow, or Press the <Esc> Key to End

CP 125 TO CP137, CP 125 TO CP138, and CP125 TO CP126

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	10

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.43	28.7	1.26	0.456	0.02	0.45	22.79	96.00	85.0	29

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	170

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	198.6	1.81	0.499	0.05	0.55	110.00	270.00	85.5	228
1.00	719.0	2.66	0.549	0.11	1.11	270.00	370.00	86.0	748

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA AOMS Prepared by JSB Date 10-28-91

DIVERSION TABLES

CP 126

This area diverts approximately 80% of the flow to CP139 and the remainder flows to CP138.

Form 209

The WLB Group Inc. WLB

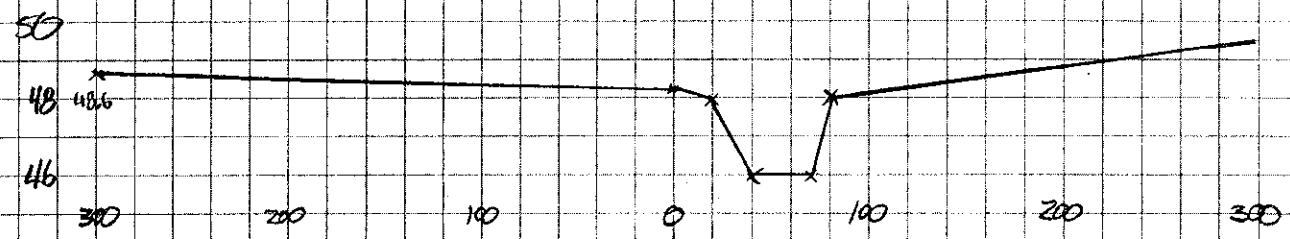
COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 11-30-90

DIVERSION TABLES

WADDELL ROAD AND AT&SF RR AT COTTON LANE

CP130 TO CP144 CP130 TO CP131



WADDEL ROAD (WEST)
DIVERSION
S= .0036 1/1

AT&SF RR (NORTH)
REMAINDER
S= .0057 1/1

DT	DI144									
DI	0	37	124	257	440	743	1487	2233	3928	6436
DQ	0	0	0	0	0	196	657	1133	2198	3747

Form 209

CP 130 TO CP 144

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0036
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	200

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	196.1	1.74	0.458	0.05	0.55	112.50	250.00	48.5	196
1.00	656.5	2.63	0.507	0.11	1.11	250.00	300.00	49.0	657

CP 130 TO CP 144

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0036
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	500

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	476.2	1.81	0.463	0.05	0.55	262.50	550.00	49.5	1133
1.00	1540.8	2.80	0.516	0.12	1.12	550.00	600.00	50.0	2198
1.50	3090.5	3.58	0.548	0.20	1.70	862.50	650.00	50.5	3747
2.00	5098.7	4.25	0.572	0.28	2.28	1200.00	700.00	51.0	5756

Enter Depth of Flow, or Press the <Esc> Key to End

CP130 TO CP131

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0057
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	220

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	270.2	2.21	0.577	0.08	0.58	122.50	270.00	49.5	1100
1.00	899.7	3.33	0.639	0.17	1.17	270.00	320.00	50.0	1730
1.50	1859.4	4.20	0.677	0.27	1.77	442.50	370.00	50.5	2689
2.00	3159.3	4.94	0.705	0.38	2.38	640.00	420.00	51.0	3989
2.50	4817.5	5.59	0.727	0.48	2.98	862.50	470.00	51.5	5647

Enter Depth of Flow, or Press the <Esc> Key to End

CP 130 TO CP131

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0057
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	5
Channel Side Slope - Right Side (horizontal/vertical)	10
Channel Bottom Width (feet)	30

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	37.0	2.19	0.576	0.07	0.57	16.88	37.50	46.5	37
1.00	123.9	3.30	0.638	0.17	1.17	37.50	45.00	47.0	124
1.50	257.4	4.16	0.675	0.27	1.77	61.88	52.50	47.5	257
2.00	439.6	4.88	0.703	0.37	2.37	90.00	60.00	48.0	440

CP130 TO CP131

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0057
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	80

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.50	107.0	2.04	0.565	0.06	0.56	52.50	130.00	48.5	547
1.00	389.9	3.00	0.622	0.14	1.14	130.00	180.00	49.0	830

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

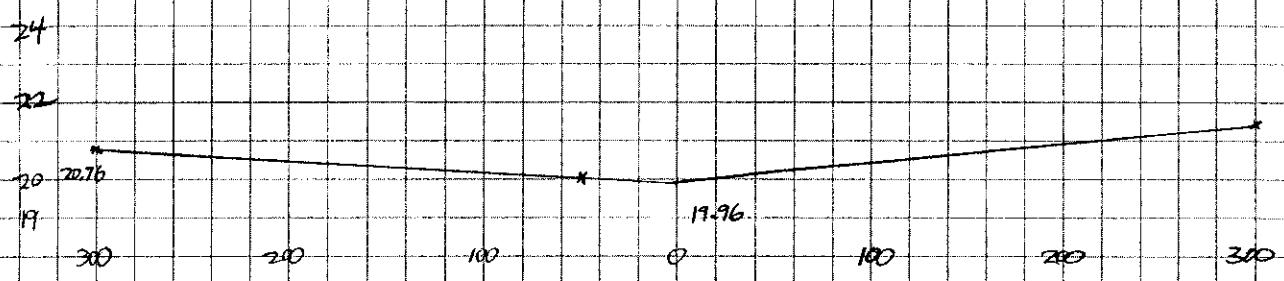
COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

WADDELL ROAD AND SARIVAL AVENUE

CP131 TO CP145 CP131 TO CP132



WADDELL ROAD (WEST)
DIVERSION
S = .016 ft/ft

SARIVAL AVENUE (NORTH)
REMAINDER
S = .0044 ft/ft

DT	DI145						
DI	0	60	608	1900	3801	6042	9665
DQ	0	39	491	1546	2353	4171	6841

Form 209

CP131 TO CP132

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	20.6	1.37	0.463	0.03	0.53	15.00	55.00	20.5	21
1.00	116.7	2.12	0.517	0.07	1.07	55.00	105.00	21.0	117

CP131 TO CP132

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	220

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	237.4	1.94	0.507	0.06	0.56	122.50	270.00	21.5	354
1.00	790.5	2.93	0.562	0.13	1.13	270.00	320.00	22.0	1448

Enter Depth of Flow, or Press the <Esc> Key to End

CP131 TO CP132

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	400

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.50	423.1	1.99	0.511	0.06	0.56	212.50	450.00	225	1871
1.00	1376.4	3.06	0.568	0.15	1.15	450.00	500.00	230	2824
1.50	2776.9	3.90	0.603	0.24	1.74	712.50	550.00	235	4225
2.00	4608.4	4.61	0.629	0.33	2.33	1000.00	600.00	240	6056

Enter Depth of Flow, or Press the <Esc> Key to End

CP 131 TO CP 145

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	39.3	2.62	0.884	0.11	0.61	15.00	55.00	205	39

CP 131 TO CP 145

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	220

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	452.6	3.69	0.967	0.21	0.71	122.50	270.00	21.0	491
1.00	1507.4	5.58	1.071	0.48	1.48	270.00	320.00	21.5	1546

Enter Depth of Flow, or Press the <Esc> Key to End

CP131 TO CP145

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	400

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	806.8	3.80	0.974	0.22	0.72	212.50	450.00	22.0	2353
1.00	2624.7	5.83	1.083	0.53	1.53	450.00	500.00	22.5	4171
1.50	5295.4	7.43	1.151	0.86	2.36	712.50	550.00	23.0	6841

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

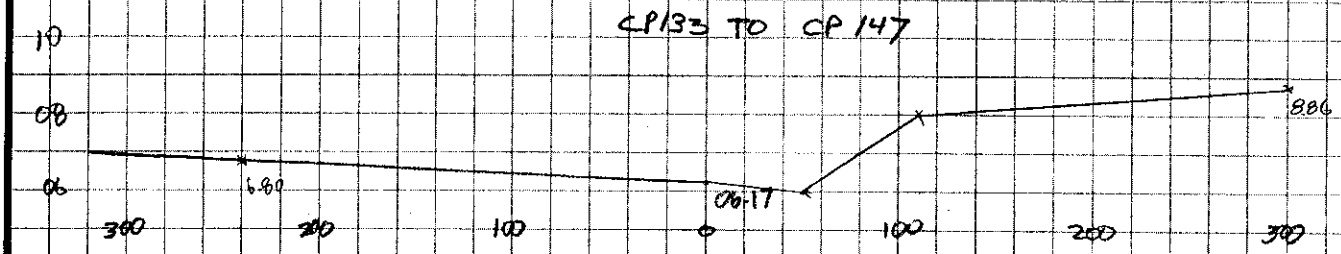
Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

WADDELL ROAD AND REEMS ROAD

CP133 TO CP146 CP133 TO CP134

CP133 TO CP147



WADDELL ROAD (WEST) INTERSECTION REEMS ROAD (NORTH)

DIVERSION ① DIVERSION ② REMAINER

S= .01 ½ S= .01 ½ S= .0035 ½

Split is distributed accordingly 40% 20% 40%

DT	DI146						
DI	0	80	341	1081	2600	4587	7337
DQ	0	32	136	432	1040	1835	2935
DT	1D147						
DI	0	48	205	649	1560	2752	4402
DQ	0	16	68	216	520	917	1467

Form 209

CP 133 TO CP146

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	31.1	2.07	0.699	0.07	0.57	15.00	55.00	6.5	31
1.00	175.9	3.20	0.779	0.16	1.16	55.00	105.00	7.0	176

CP 133 TO CP146

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	350

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	560.0	2.99	0.769	0.14	0.64	187.50	400.00	7.5	736
1.00	1829.0	4.57	0.855	0.32	1.32	400.00	450.00	8.0	2005
1.50	3705.5	5.81	0.907	0.52	2.02	637.50	500.00	8.5	3881
2.00	6175.5	6.86	0.945	0.73	2.73	900.00	550.00	9.0	6352

Enter Depth of Flow, or Press the <Esc> Key to End

CP133 TO CP134

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0035
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	30
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.50	48.7	1.69	0.448	0.04	0.54	28.75	65.00	6.5	49
1.00	164.5	2.53	0.495	0.10	1.10	65.00	80.00	7.0	165
1.50	345.1	3.17	0.523	0.16	1.66	108.75	95.00	7.5	345
2.00	594.6	3.72	0.543	0.21	2.21	160.00	110.00	8.0	595

CP133 TO CP134

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0035
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	110

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.50	111.0	1.64	0.446	0.04	0.54	67.50	160.00	8.5	706
1.00	389.9	2.44	0.492	0.09	1.09	160.00	210.00	9.0	985
1.50	846.0	3.05	0.520	0.14	1.64	277.50	260.00	9.5	1441
2.00	1500.5	3.57	0.541	0.20	2.20	420.00	310.00	10.0	2095

Enter Depth of Flow, or Press the <Esc> Key to End

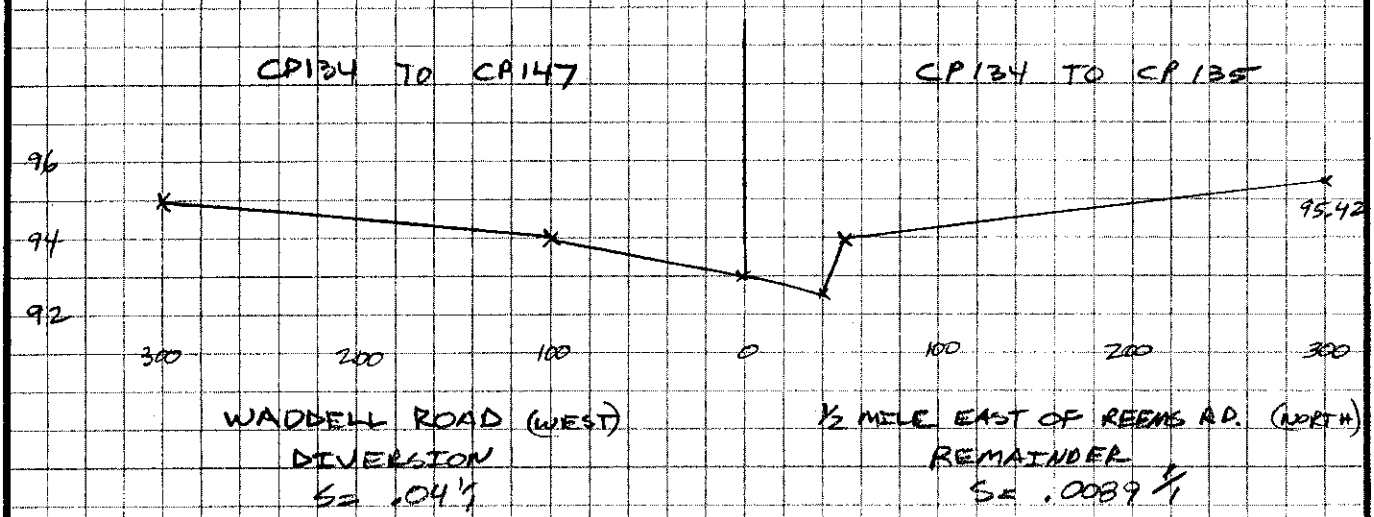
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

WADDEL ROAD AND ½ MILE EAST OF REEMS RD.



DT	2D147								
DI	0	26	162	614	1050	2192	3494	6483	10967
DQ	0	0	62	352	697	1575	2539	4742	8027

Form 209

CP 134 TO CP 147

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.04
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	62.1	4.14	1.397	0.27	0.77	15.00	55.00	935	62
1.00	351.8	6.40	1.558	0.64	1.64	55.00	105.00	940	352

CP 134 TO CP 147

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.04
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	344.6	5.51	1.505	0.47	0.97	62.50	150.00	945	697
1.00	1222.6	8.15	1.659	1.03	2.03	150.00	200.00	950	1575

Enter Depth of Flow, or Press the <Esc> Key to End

CP134 TO CP147

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.04
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	964.3	5.93	1.535	0.55	1.05	162.50	350.00	955	2539
1.00	3166.7	9.05	1.705	1.27	2.27	350.00	400.00	960	4742
1.50	6451.9	11.47	1.808	2.04	3.54	562.50	450.00	965	8027
2.00	10812.7	13.52	1.883	2.84	4.84	800.00	500.00	970	12388

Enter Depth of Flow, or Press the <Esc> Key to End

CP 134 TO CP135

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0089
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	6
Channel Side Slope - Right Side (horizontal/vertical)	80
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	26.2	1.98	0.664	0.06	0.56	13.25	48.00	93.0	26

CP134 TO CP135

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0089
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	6
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.50	73.9	2.87	0.725	0.13	0.63	25.75	53.00	93.5	100
1.00	235.7	4.45	0.806	0.31	1.31	53.00	56.00	94.0	262

Enter Depth of Flow, or Press the <Esc> Key to End

CP134 TO CP135

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0089
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	90.8	2.42	0.697	0.09	0.59	37.50	100.00	94.5	353
1.00	355.0	3.55	0.766	0.20	1.20	100.00	150.00	95.0	617

CP134 TO CP135

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0089
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	220

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	337.6	2.76	0.721	0.12	0.62	122.50	270.00	95.5	955
1.00	1124.2	4.16	0.799	0.27	1.27	270.00	320.00	96.0	1741
1.50	2323.5	5.25	0.846	0.43	1.93	442.50	370.00	96.5	2940
2.00	3947.7	6.17	0.881	0.59	2.59	640.00	420.00	97.0	4565
2.50	6019.8	6.98	0.908	0.76	3.26	862.50	470.00	97.5	6637

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

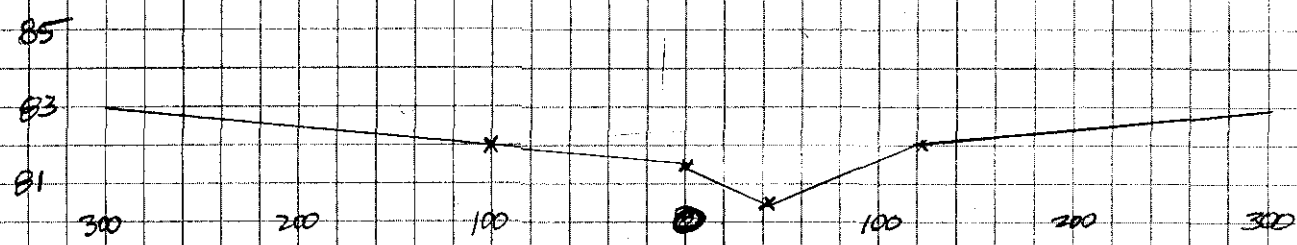
COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSB Date 12-3-90

DIVERSION TABLES

WADDELL ROAD AND BULLARD AVENUE

CP135 TO CP148 CP135 TO CP136



WADDELL ROAD (WEST)
DIVERSION
S= .0044 1/1

BULLARD AVENUE (NORTH)
REMAINDER
S= .0067 1/1

DT DI 148

DI	0	24	136	323	849	1809	2524	4155	6589	8820
DR	0	0	0	21	135	427	747	1477	2566	3013

Form 209

CP135 TO CP136

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0067
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	53
Channel Side Slope - Right Side (horizontal/vertical)	40
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	24.2	1.71	0.576	0.05	0.55	14.12	51.50	810	24
1.00	136.0	2.64	0.642	0.11	1.11	51.50	98.00	815	136

CP135 TO CP136

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0067
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	120

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	166.2	2.29	0.619	0.08	0.58	72.50	170.00	820	302
1.00	578.6	3.40	0.682	0.18	1.18	170.00	220.00	825	714
1.50	1246.3	4.26	0.721	0.28	1.78	292.50	270.00	830	1382

Enter Depth of Flow, or Press the <Esc> Key to End

CP135 TO CP136

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0067
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	394.7	2.43	0.628	0.09	0.59	162.50	350.00	83.5	1777
1.00	1296.0	3.70	0.698	0.21	1.21	350.00	400.00	84.0	2678
1.50	2640.6	4.69	0.740	0.34	1.84	562.50	450.00	84.5	4023
2.00	4425.3	5.53	0.771	0.48	2.48	800.00	500.00	85.0	5807
2.50	6661.8	6.27	0.795	0.61	3.11	1062.50	550.00	85.5	8044

Enter Depth of Flow, or Press the <Esc> Key to End

CP135 TO CP148

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	20.6	1.37	0.463	0.03	0.53	15.00	55.00	82.0	21

CP135 TO CP148

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	114.3	1.83	0.499	0.05	0.55	62.50	150.00	82.5	135
1.00	405.5	2.70	0.550	0.11	1.11	150.00	200.00	83.0	427

Enter Depth of Flow, or Press the <Esc> Key to End

CP 135 TO CP 148

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	319.8	1.97	0.509	0.06	0.56	162.50	350.00	83.5	747
1.00	1050.3	3.00	0.565	0.14	1.14	350.00	400.00	84.0	1477
1.50	2139.9	3.80	0.600	0.22	1.72	562.50	450.00	84.5	2556
2.00	3586.2	4.48	0.625	0.31	2.31	800.00	500.00	85.0	3013

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

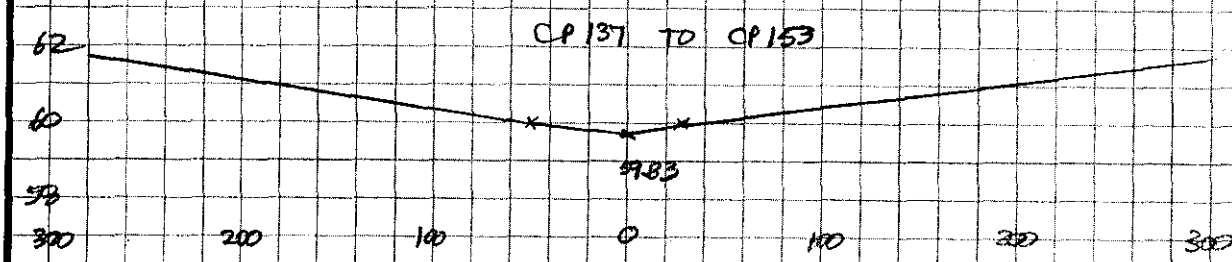
COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

WADDEL ROAD AND LITCHFIELD ROAD

CP137 TO CP149 CP137 TO CP138



WADDELL ROAD (WEST) DIVERSION ① S = .0046 ½ INT. DIVERSION ② S = .0081 ½ LITCHFIELD ROAD (NORTH) REMAINDER S = .022 ½

DT	DI 149								
DI	0	6	169	684	1659	3199	5400	8353	12141
DQ	0	2	56	228	553	1066	1800	2784	4047

DT	DI 153								
DI	0	4	113	456	1106	2133	3600	6553	8094
DQ	0	2	56	228	553	1066	1800	2784	4047

Form 209

CP137 TO CP138

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.022
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.17	3.7	1.62	0.884	0.04	0.21	2.29	22.00	40.0	4

CP137 TO CP138

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.022
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	30

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.50	98.7	3.59	1.079	0.20	0.70	27.50	80.00	40.5	102
1.00	423.1	5.29	1.188	0.43	1.43	80.00	130.00	41.0	427
1.50	1052.7	6.68	1.259	0.69	2.19	157.50	180.00	41.5	1057
2.00	2060.9	7.93	1.314	0.98	2.98	260.00	230.00	42.0	2065
2.50	3514.6	9.07	1.359	1.28	3.78	387.50	280.00	42.5	3518
3.00	5475.9	10.14	1.397	1.60	4.60	540.00	330.00	43.0	5480
3.50	8003.7	11.15	1.431	1.93	5.43	717.50	380.00	43.5	8008

Enter Depth of Flow, or Press the <Esc> Key to End

CP 137 TO CP149

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0046
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.17	1.7	0.74	0.404	0.01	0.18	2.29	22.00	40.0	2

CP137 TO CP149

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0046
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.50	65.3	1.74	0.501	0.05	0.55	37.50	100.00	40.5	67
1.00	255.2	2.55	0.551	0.10	1.10	100.00	150.00	41.0	257
1.50	600.4	3.20	0.583	0.16	1.66	187.50	200.00	41.5	602
2.00	1132.1	3.77	0.607	0.22	2.22	300.00	250.00	42.0	1134
2.50	1879.7	4.30	0.627	0.29	2.79	437.50	300.00	42.5	1882
3.00	2870.8	4.78	0.644	0.36	3.36	600.00	350.00	43.0	2873
3.50	4131.6	5.25	0.659	0.43	3.93	787.50	400.00	43.5	4133

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

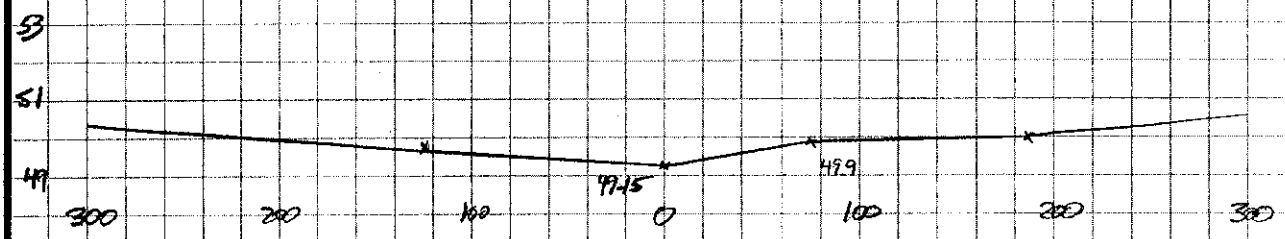
COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

WADDELL ROAD AND DYSART ROAD

CP 138 TO CP 154 CP 138 TO CP 157



WADDELL ROAD (WEST)
DIVERSION
S= .053 ½

DYSART ROAD (NORTH)
REMAINDER
S= .0128 ½

DT DI 154

DI	0	44	392	1366	3326	6347	10546	16046
DQ	0	30	268	874	1974	3682	6100	9324

Form 209

CP 138 TO CP154

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.053
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.35	30.2	3.84	1.524	0.23	0.58	7.87	40.00	49.5	30
0.85	268.1	6.64	1.747	0.68	1.53	40.37	90.00	50.0	268
1.35	873.5	8.92	1.881	1.24	2.59	97.87	140.00	50.5	874
1.85	1974.0	10.94	1.979	1.86	3.71	180.37	190.00	51.0	1974
2.35	3681.8	12.79	2.058	2.54	4.89	287.87	240.00	51.5	3682
2.85	6099.9	14.51	2.124	3.27	6.12	420.37	290.00	52.0	6100
3.35	9323.7	16.13	2.181	4.04	7.39	577.87	340.00	52.5	9324

Enter Depth of Flow, or Press the <Esc> Key to End

CP 138 TO CP 157

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0128
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	93
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.35	14.1	1.89	0.749	0.06	0.41	7.45	37.55	49.5	14
0.85	123.8	3.27	0.859	0.17	1.02	37.85	84.05	50	124

CP138 TO CP 157

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0128
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	93
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	200

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	368.4	3.30	0.864	0.17	0.67	111.62	246.50	50.5	492
1.00	1228.3	4.98	0.957	0.39	1.39	246.50	293.00	51.0	1352
1.50	2541.4	6.28	1.014	0.61	2.11	404.62	339.50	51.5	2665
2.00	4322.8	7.38	1.055	0.85	2.85	586.00	386.00	52.0	4446
2.50	6598.6	8.35	1.088	1.08	3.58	790.62	432.50	52.5	6722
3.00	9398.6	9.23	1.115	1.32	4.32	1018.50	479.00	53.0	9522

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

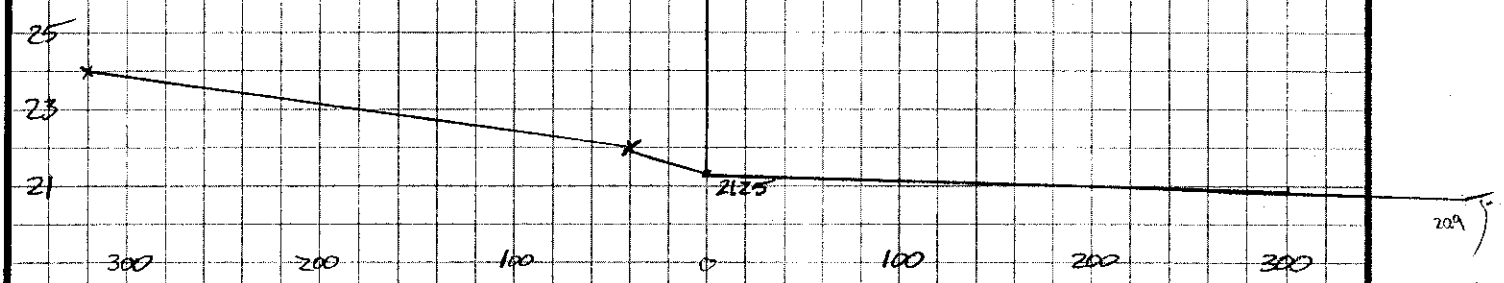
COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

CACTUS ROAD AND COTTON LANE

CP144 TO CP164 CP144 TO CP165



S=.0021 1/1

CACTUS ROAD (WEST) DIVERSION S= .021 1/1

COTTON LANE (NORTH) REMAINDER S= .005 1/1

DT ID 164

DI	0	407	1451	2130	3746	6248	9200	13452
DQ	0	0	123	241	602	1278	1864	3217

Form 209

CP144 TO CP165

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	360

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	407.0	2.11	0.544	0.07	0.57	192.50	410.00	21.5	407
1.00	1328.1	3.24	0.605	0.16	1.16	410.00	460.00	22.0	1328

CP144 TO CP165

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	500

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	561.2	2.14	0.545	0.07	0.57	262.50	550.00	22.5	1889
1.00	1815.8	3.30	0.608	0.17	1.17	550.00	600.00	23.0	3144
1.50	3642.2	4.22	0.646	0.28	1.78	862.50	650.00	23.5	4970
2.00	6008.8	5.01	0.674	0.39	2.39	1200.00	700.00	24.0	7336
2.50	8907.2	5.70	0.696	0.50	3.00	1562.50	750.00	24.5	10235

Enter Depth of Flow, or Press the <Esc> Key to End

CP144 TO CP164

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.021
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	45.0	3.00	1.013	0.14	0.64	15.00	55.00	21.75	45
0.75	123.1	3.86	1.078	0.23	0.98	31.88	80.00	22.0	123

CP144 TO CP164

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.021
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	40

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	117.9	3.63	1.064	0.20	0.70	32.50	90.00	22.5	241
1.00	478.9	5.32	1.170	0.44	1.44	90.00	140.00	23.0	602
1.50	1154.9	6.69	1.238	0.70	2.20	172.50	190.00	23.5	1278

Enter Depth of Flow, or Press the <Esc> Key to End

CP 144 TO CP164

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.021
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	250

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	586.1	4.26	1.109	0.28	0.78	137.50	300.00	24.0	1864
1.00	1939.4	6.46	1.231	0.65	1.65	300.00	350.00	24.5	3217
1.50	3982.6	8.17	1.304	1.04	2.54	487.50	400.00	250	5260
2.00	6725.7	9.61	1.358	1.43	3.43	700.00	450.00	255	8004

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

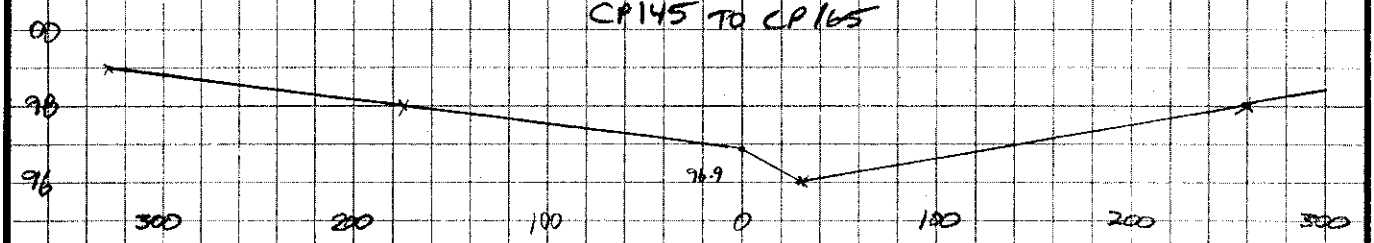
Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

CACTUS ROAD AND SARIVAL AVENUE

CP145 TO CP164 CP145 TO CP146

CP145 TO CP165



CACTUS ROAD (WEST) INT. SARIVAL AVENUE (NORTH)

DIVERSION ① DIVERSION ② REMAINDER

S= .012 1/1 S= .02 1/1 S= .0091 1/1

DT 2D 164

DI	0	37	218	475	1177	1902	3592	5561	8738
DQ	0	0	0	34	93	517	1285	1864	3181

DT DI 165

DI	0	37	218	441	984	1385	2307	3697	5557
DQ	0	0	0	111	383	584	1044	1740	2670

Form 209

CP 145 TO CP164

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.012
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	34.0	2.27	0.765	0.08	0.58	15.00	55.00	97.5	34
1.00	192.7	3.50	0.853	0.19	1.19	55.00	105.00	98.0	193

CP145 TO CP164

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.012
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	180

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	324.0	3.16	0.835	0.16	0.66	102.50	230.00	98.5	517
1.00	1092.0	4.75	0.923	0.35	1.35	230.00	280.00	99.0	1285

Enter Depth of Flow, or Press the <Esc> Key to End

CP145 TO CP164

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.012
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	330

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	579.3	3.26	0.842	0.17	0.67	177.50	380.00	99.5	1864
1.00	1895.9	4.99	0.935	0.39	1.39	380.00	430.00	100	3181
1.50	3848.8	6.34	0.992	0.62	2.12	607.50	480.00	100.5	5134

Enter Depth of Flow, or Press the <Esc> Key to End

CP 145 TO CP 146

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0091
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	33
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	37.5	1.96	0.668	0.06	0.56	19.12	71.50	96.5	37
1.00	217.9	3.05	0.746	0.14	1.14	71.50	138.00	97.0	218

CP 145 TO CP 146

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0091
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	140

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	223.1	2.70	0.723	0.11	0.61	82.50	190.00	97.5	441
1.00	766.2	4.03	0.799	0.25	1.25	190.00	240.00	98.0	984

Enter Depth of Flow, or Press the <Esc> Key to End

CP145 TO CP146

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0091
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	260

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	400.6	2.81	0.731	0.12	0.62	142.50	310.00	985	1385
1.00	1323.4	4.27	0.811	0.28	1.28	310.00	360.00	990	2307
1.50	2712.6	5.40	0.859	0.45	1.95	502.50	410.00	995	3697
2.00	4573.0	6.35	0.895	0.63	2.63	720.00	460.00	1000	5557

Enter Depth of Flow, or Press the <Esc> Key to End

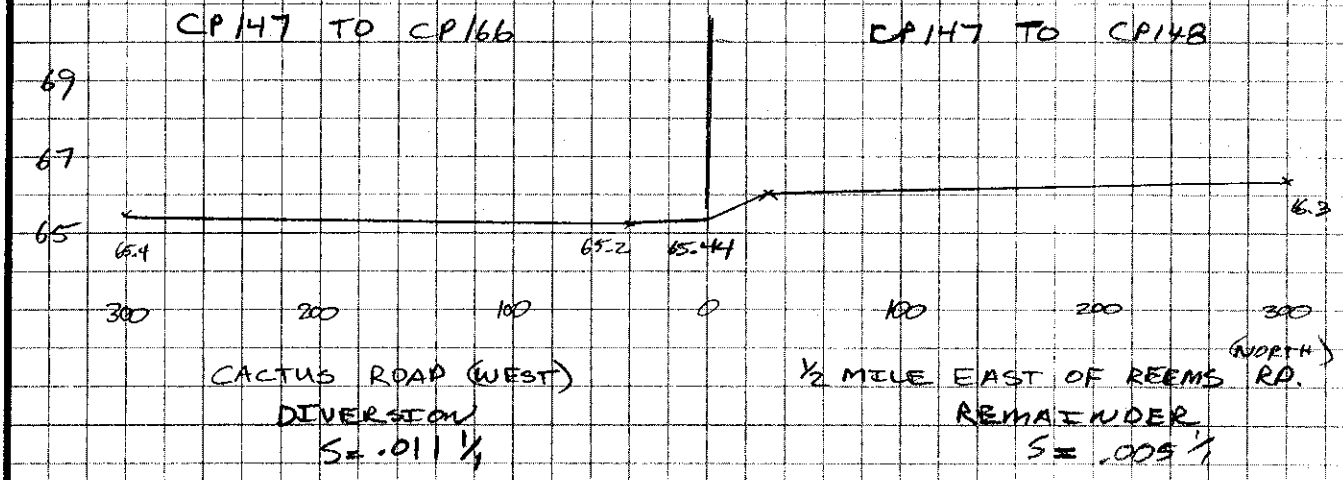
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

CACTUS ROAD AND ½ MILE EAST OF REEMS RD.



DT	DI 166						
DI	0	108	1147	2026	4338	8063	13066
DQ	0	108	1129	1961	3822	6531	10041

Form 209

CP147 TO CP166

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.011
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.20	107.8	1.74	0.696	0.05	0.25	62.00	320.00	65.4	108
0.80	1129.1	4.15	0.865	0.27	1.07	272.00	380.00	66.0	1129

CP147 TO CP166

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.011
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	500

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	832.3	3.17	0.809	0.16	0.66	262.50	550.00	66.5	1961
1.00	2693.3	4.90	0.901	0.37	1.37	550.00	600.00	67.0	3822
1.50	5402.3	6.26	0.958	0.61	2.11	862.50	650.00	67.5	6531
2.00	8912.5	7.43	1.000	0.86	2.86	1200.00	700.00	68.0	10041

Enter Depth of Flow, or Press the <Esc> Key to End

CP 147 TO CP 148

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	54
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.56	18.3	1.62	0.505	0.04	0.60	11.27	35.24	66.0	18

CP 147 TO CP 148

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	30

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.50	47.1	1.71	0.514	0.05	0.55	27.50	80.00	66.5	65

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CP147 TO CP148

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	400

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	451.0	2.12	0.544	0.07	0.57	212.50	450.00	67.0	576
1.00	1467.3	3.26	0.606	0.17	1.17	450.00	500.00	67.5	1532
1.50	2960.2	4.15	0.643	0.27	1.77	712.50	550.00	68.0	3025
2.00	4912.6	4.91	0.671	0.37	2.37	1000.00	600.00	68.5	4977

Enter Depth of Flow, or Press the <Esc> Key to End

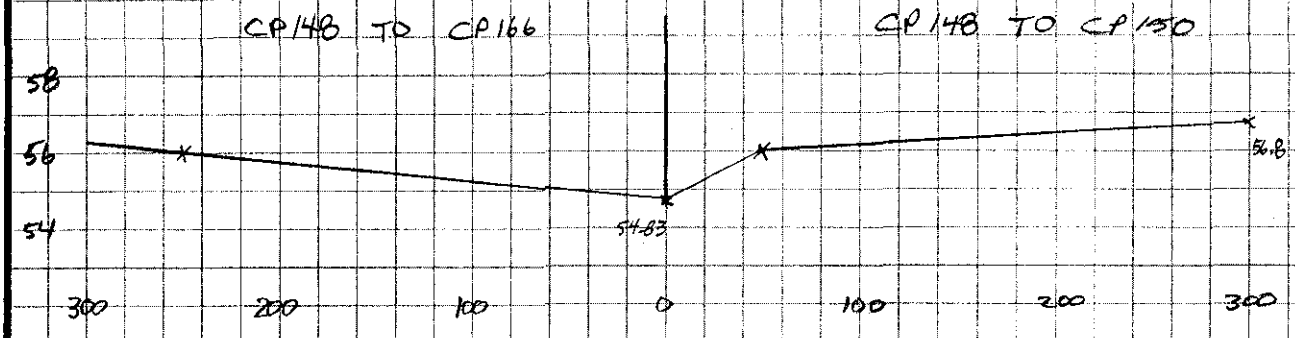
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

CACTUS ROAD AND BULLARD AVENUE



CACTUS ROAD (WEST)
REMAINDER
S = .008 1/1

BULLARD AVENUE (NORTH)
DIVERSION
S = .0023 1/1

DT DI150

DL	0	3	104	399	807	1777	2687	5053	8363
DQ	0	1	16	60	106	241	472	1000	1788

Form 209

CP 148 TO CP166

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.17	2.2	0.98	0.533	0.01	0.18	2.29	22.00	55.0	2

CP148 TO CP166

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	86.1	2.30	0.661	0.08	0.58	37.50	100.00	55.5	88
1.00	336.6	3.37	0.726	0.18	1.18	100.00	150.00	56.0	339

Enter Depth of Flow, or Press the <Esc> Key to End

CP148 TO CP166

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	250

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	361.7	2.63	0.685	0.11	0.61	137.50	300.00	56.5	701
1.00	1197.0	3.99	0.759	0.25	1.25	300.00	350.00	57.0	1536

C148 TO CP166

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	550

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	779.5	2.71	0.690	0.11	0.61	287.50	600.00	57.5	2315
1.00	2517.5	4.20	0.770	0.27	1.27	600.00	650.00	58.0	4053
1.50	5039.3	5.38	0.819	0.45	1.95	937.50	700.00	58.5	6575

Enter Depth of Flow, or Press the <Esc> Key to End

CP 148 TO CP 150

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0023
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	42
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.17	0.8	0.57	0.291	0.01	0.18	1.46	12.14	55.0	1
0.67	15.9	1.24	0.352	0.02	0.69	12.78	33.14	~~55.5~~	16
1.17	60.1	1.74	0.383	0.05	1.22	34.60	54.14	56.0	60

CP 148 TO CP 150

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0023
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.50	46.2	1.23	0.354	0.02	0.52	37.50	100.00	56.5	106
1.00	180.5	1.80	0.390	0.05	1.05	100.00	150.00	57.0	241

Enter Depth of Flow, or Press the <Esc> Key to End

CP148 TO CP150

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0023
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	231.2	1.42	0.368	0.03	0.53	162.50	350.00	57.5	472
1.00	759.3	2.17	0.409	0.07	1.07	350.00	400.00	58.0	1000
1.50	1547.1	2.75	0.434	0.12	1.62	562.50	450.00	58.5	1788
2.00	2592.8	3.24	0.452	0.16	2.16	800.00	500.00	59.0	2833
2.50	3903.1	3.67	0.466	0.21	2.71	1062.50	550.00	59.5	4144

Enter Depth of Flow, or Press the <Esc> Key to End

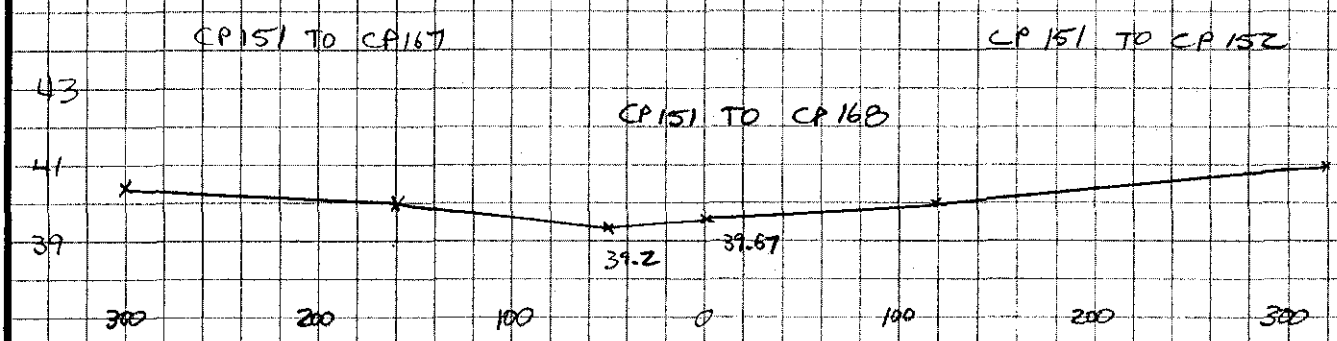
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

CACTUS ROAD AND LITCHFIELD ROAD



CACTUS ROAD (WEST) REMAINDER S= .0021 Y/1

INT. DIVERSION ① S= .0033 1/1

LITCHFIELD ROAD (NORTH) DIVERSION ② S= .0025 1/1

DT ID 168

DI	0	22	73	360	833	1579	2881	4702	7044
DQ	0	0	17	113	270	519	953	1560	2341

DT DI 152

DI	0	22	56	247	563	1060	1928	3142	4703
DQ	0	0	17	113	270	519	953	1560	2341

Form 209

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	11.6	0.78	0.262	0.01	0.51	15.00	55.00	13.0	12

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.50	64.6	1.03	0.282	0.02	0.52	62.50	150.00	13.5	77
1.00	229.2	1.53	0.311	0.04	1.04	150.00	200.00	14.0	241

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	350

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	210.0	1.12	0.288	0.02	0.52	187.50	400.00	14.5	451
1.00	685.9	1.71	0.321	0.05	1.05	400.00	450.00	15.0	927
1.50	1389.6	2.18	0.340	0.07	1.57	637.50	500.00	15.5	1631
2.00	2315.8	2.57	0.354	0.10	2.10	900.00	550.00	16.0	2557
2.50	3467.4	2.92	0.366	0.13	2.63	1187.50	600.00	16.5	3709
3.00	4850.6	3.23	0.375	0.16	3.16	1500.00	650.00	17.0	5092

Enter Depth of Flow, or Press the <Esc> Key to End

CP151 TO CP167

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0021
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.47	21.8	0.89	0.317	0.01	0.48	24.44	99.00	39.67	22

CP151 TO CP167

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0021
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	120

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.33	45.2	1.00	0.326	0.02	0.35	45.04	153.00	40.0	67
0.83	230.1	1.72	0.372	0.05	0.88	134.04	203.00	40.5	252

Enter Depth of Flow, or Press the <Esc> Key to End

CP151 TO CP167

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0021
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	221.0	1.36	0.352	0.03	0.53	162.50	350.00	41.0	473
1.00	725.6	2.07	0.391	0.07	1.07	350.00	400.00	41.5	978
1.50	1478.3	2.63	0.414	0.11	1.61	562.50	450.00	42.0	1730
2.00	2477.5	3.10	0.431	0.15	2.15	800.00	500.00	42.5	2729
2.50	3729.6	3.51	0.445	0.19	2.69	1062.50	550.00	43.0	3981

Enter Depth of Flow, or Press the <Esc> Key to End

CP151 TO CP152

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.33	5.7	0.80	0.328	0.01	0.34	7.09	38.00	40.0	6

CP151 TO CP152

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	120

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.50	101.5	1.40	0.378	0.03	0.53	72.50	170.00	40.5	108
1.00	353.5	2.08	0.417	0.07	1.07	170.00	220.00	41.0	360

Enter Depth of Flow, or Press the <Esc> Key to End

CP151 TO CP152

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.50	241.1	1.48	0.384	0.03	0.53	162.50	350.00	41.5	601
1.00	791.7	2.26	0.426	0.08	1.08	350.00	400.00	42.0	1151
1.50	1613.0	2.87	0.452	0.13	1.63	562.50	450.00	42.5	1973
2.00	2703.2	3.38	0.471	0.18	2.18	800.00	500.00	43.0	3063
2.50	4069.3	3.83	0.486	0.23	2.73	1062.50	550.00		
3.00	5721.9	4.24	0.498	0.28	3.28	1350.00	600.00		

Enter Depth of Flow, or Press the <Esc> Key to End

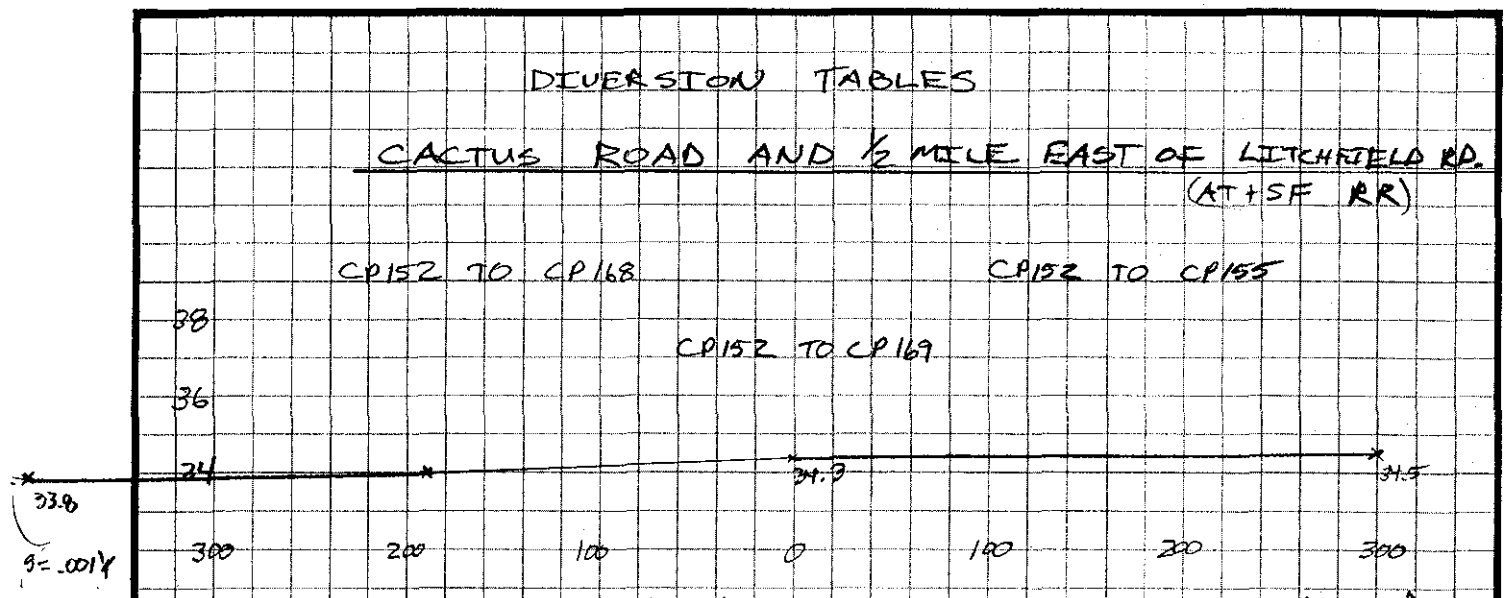
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

CACTUS ROAD AND ½ MILE EAST OF LITCHFIELD RD.
(AT+SF RR)



DT 1D169

DI	0	334	482	1536	3908	6291	9848	14192
DQ	0	0	49	400	1058	1986	3171	4619

DT PI155

DI	0	334	433	1136	2450	4305	6677	9573
DQ	0	0	49	400	1058	1986	3171	4619

Form 209

CP152 TO CP155

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.004
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	200

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.20	43.6	1.04	0.419	0.02	0.22	42.00	220.00	34.5	44

CP152 TO CP155

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.004
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.50	304.9	1.88	0.485	0.05	0.55	162.50	350.00	35.0	349
1.00	1001.4	2.86	0.539	0.13	1.13	350.00	400.00	35.5	1045
1.50	2040.3	3.63	0.572	0.20	1.70	562.50	450.00	36.0	2088
2.00	3419.3	4.27	0.595	0.28	2.28	800.00	500.00	36.5	3463
2.50	5147.3	4.84	0.614	0.36	2.86	1062.50	550.00	37.0	5191
3.00	7237.7	5.36	0.630	0.45	3.45	1350.00	600.00	37.5	7281

Enter Depth of Flow, or Press the <Esc> Key to End

CP 152 TO CP 168

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0026
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	400

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	333.7	1.48	0.390	0.03	0.53	225.00	500.00	34.3	334

CP152 TO CP 168

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0026
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	600

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.20	104.2	0.85	0.339	0.01	0.21	122.00	620.00	34.5	438
0.70	853.4	1.92	0.415	0.06	0.76	444.50	670.00	35.0	1187
1.20	2129.2	2.69	0.452	0.11	1.31	792.00	720.00	35.5	2463
1.70	3869.4	3.32	0.476	0.17	1.87	1164.50	770.00	36.0	4203
2.20	6051.5	3.87	0.495	0.23	2.43	1562.00	820.00	36.5	6385
2.70	8667.4	4.37	0.510	0.30	3.00	1984.50	870.00	37.0	9001
3.20	11716.2	4.82	0.522	0.36	3.56	2432.00	920.00	37.5	12050

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-27-91

DIVERSION TABLES

SUBBASIN 158A

Weir Flow East Into Agua Fria River

$Q = CLH^{3/2}$ $C = 2.6$

Q at 1124 = 592 cfs L = 275/2 H = 1.4

Q at 1126 = 10186 cfs L = 1250/2 H = 3.4

Q at 1128 = 30995 cfs L = 1900/2 H = 5.4

SEE STAGE - STORAGE - DISCHARGE TABLE FOR FLOW UNDER BRIDGE

DT DI158A

DI	0	1687	3972	6993	8033	11282
DQ	0	0	0	0	0	592

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANK/AGUA FRIA ADMS Prepared by JSE Date 2-27-91

STAGE - STORAGE - DISCHARGE TABLE

SUBBASIN 15BA

BW = 120' TW = 180' LSS = 1.5 RSS = 1.5
S = .0028 ft/ft n = .035

ELEV. (FT)	AREA (AC)		VOLUME (AC-FT)	DISCHARGE (CFS)
1101.5	0		0	0
		5.23		
1108	1.61		5.23	0
		4.0		
1110	2.39		9.23	0
		19.7		
1114	7.46		28.93	0
		7.86		
1115 * Invert of Bridge	8.26		36.79	0
		37.25		
1118	16.57		74.04	1687
		36.55		
1120	19.98		110.59	3972
		48.81		
1122	28.83		159.4	6993
		17.99		
1122.6 * Weir Flow	31.14		177.39	8033
		48.54		
1124	38.20		225.93	592 + 10690 = 11282

Form 209

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
February 27, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0028
Manning's Roughness Coefficient (n-value).....	0.0350
Channel Side Slope - Left Side (horizontal/vertical)....	1.50
Channel Side Slope - Right Side (horizontal/vertical)...	1.50
Channel Bottom Width (feet).....	120.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
1.0	269.9	2.22	0.394	0.077	1.077	121.5	123.0
2.0	857.8	3.49	0.440	0.189	2.189	246.0	126.0
3.0	1688.8	4.52	0.468	0.317	3.317	373.5	129.0
4.0	2732.8	5.42	0.489	0.457	4.457	504.0	132.0
5.0	3972.1	6.23	0.505	0.603	5.603	637.5	135.0
6.0	5395.0	6.97	0.519	0.754	6.754	774.0	138.0
7.0	6992.9	7.66	0.530	0.910	7.910	913.5	141.0
7.6	8033.0	8.04	0.536	1.005	8.605	998.6	142.8
8.0	8759.5	8.30	0.540	1.068	9.068	1056.0	144.0
9.0	10690.2	8.90	0.548	1.229	10.229	1201.5	147.0
10.0	12781.1	9.47	0.556	1.392	11.392	1350.0	150.0

==========

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092
(713) 895-8322. A manual with equations & flow chart is available.

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

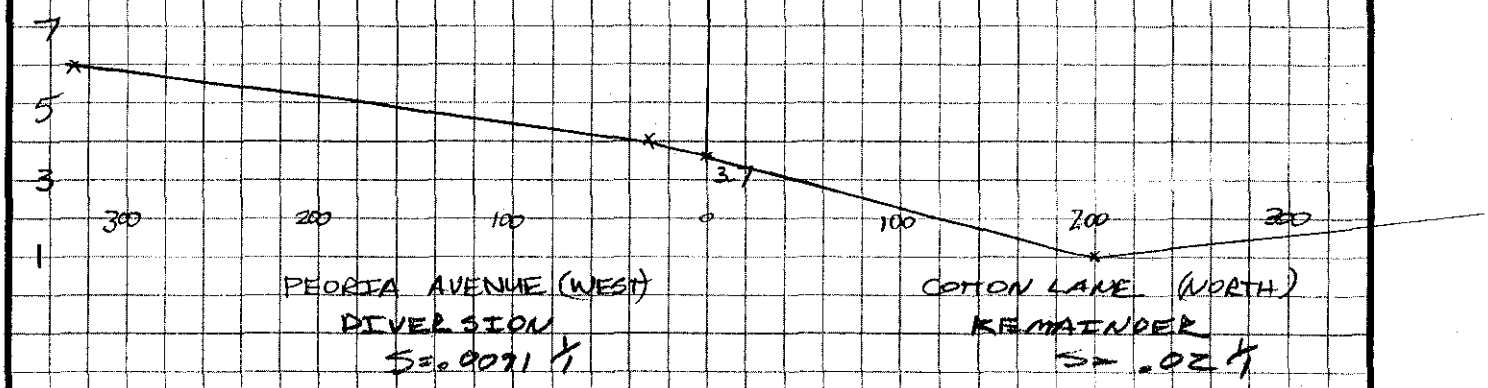
Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

PEORIA AVENUE AND COTTON LANE

CP163 TO CP 176A

CP163 TO CP164



PEORIA AVENUE (WEST)
DIVERSION
S=.0071 ft/ft

COTTON LANE (NORTH)
REMAINDER
S= .02 ft/ft

DT DI176A

DI	0	72	427	1229	2615	4708	5777	6545	8336	11092
DQ	0	0	0	0	0	0	9	95	329	762

Form 209

CP163 TO CP176A

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0091
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.30	8.7	1.45	0.617	0.03	0.33	6.00	35.00	4.0	9
0.80	95.3	2.65	0.717	0.11	0.91	36.00	85.00	4.5	95
1.30	328.5	3.61	0.775	0.20	1.50	91.00	135.00	5.0	329
1.80	761.8	4.45	0.817	0.31	2.11	171.00	185.00	5.5	762
2.30	1442.3	5.23	0.850	0.42	2.72	276.00	235.00	6.0	1442
2.80	2413.0	5.94	0.878	0.55	3.35	406.00	285.00	6.5	2413

Enter Depth of Flow, or Press the <Esc> Key to End

CP163 TO CP164

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.02
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	80
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	71.9	2.88	0.988	0.13	0.63	25.00	95.00	1.5	72
1.00	426.7	4.49	1.105	0.31	1.31	95.00	185.00	2.0	427
1.50	1229.0	5.85	1.180	0.53	2.03	210.00	275.00	2.5	1229
2.00	2615.4	7.07	1.237	0.78	2.78	370.00	365.00	3.0	2615
2.50	4708.0	8.19	1.284	1.04	3.54	575.00	455.00	3.5	4708
2.70	5768.1	8.61	1.300	1.15	3.85	669.60	491.00	4.0	5768

CP163 TO CP164

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.02
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	681.9	4.20	1.085	0.27	0.77	162.50	350.00	4.5	6450
1.00	2239.2	6.40	1.205	0.64	1.64	350.00	400.00	5.0	8007
1.50	4562.2	8.11	1.278	1.02	2.52	562.50	450.00	5.5	10330
2.00	7645.8	9.56	1.332	1.42	3.42	800.00	500.00	6.0	13413

Enter Depth of Flow, or Press the <Esc> Key to End

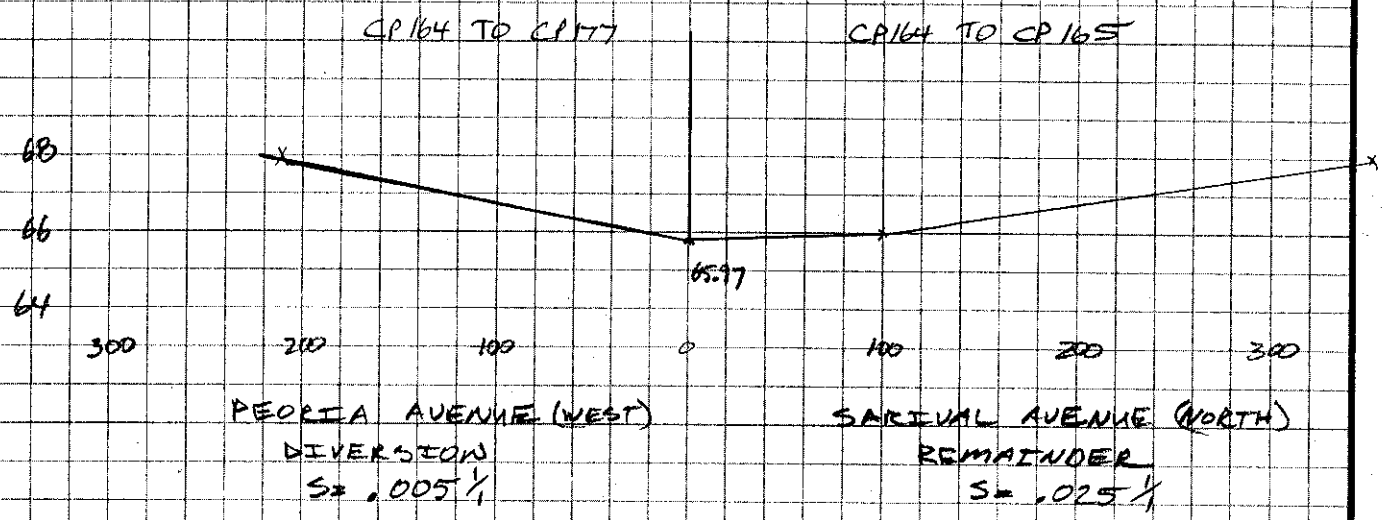
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

PEORIA AVENUE AND SARIVAL AVENUE



DT	DI 177						
DI	0	295	1091	2467	4521	7345	11030
DQ	0	22	124	352	743	1329	2143

Form 209

CP164 TO CP165

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.025
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	272.5	4.36	1.190	0.30	0.80	62.50	150.00	66.5	273
1.00	966.5	6.44	1.311	0.64	1.64	150.00	200.00	67.0	967
1.50	2115.4	8.06	1.386	1.01	2.51	262.50	250.00	67.5	2115
2.00	3778.2	9.45	1.442	1.39	3.39	400.00	300.00	68.0	3778
2.50	6015.7	10.69	1.487	1.78	4.28	562.50	350.00	68.5	6016
3.00	8887.0	11.85	1.525	2.18	5.18	750.00	400.00	69.0	8887

CP164 TO CP177

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	22.0	1.46	0.494	0.03	0.53	15.00	55.00	66.5	22
1.00	124.4	2.26	0.551	0.08	1.08	55.00	105.00	67.0	124
1.50	352.1	2.93	0.588	0.13	1.63	120.00	155.00	67.5	352
2.00	742.6	3.54	0.616	0.19	2.19	210.00	205.00	68.0	743
2.50	1329.4	4.09	0.639	0.26	2.76	325.00	255.00	68.5	1329
3.00	2143.3	4.61	0.658	0.33	3.33	465.00	305.00	69.0	2143

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

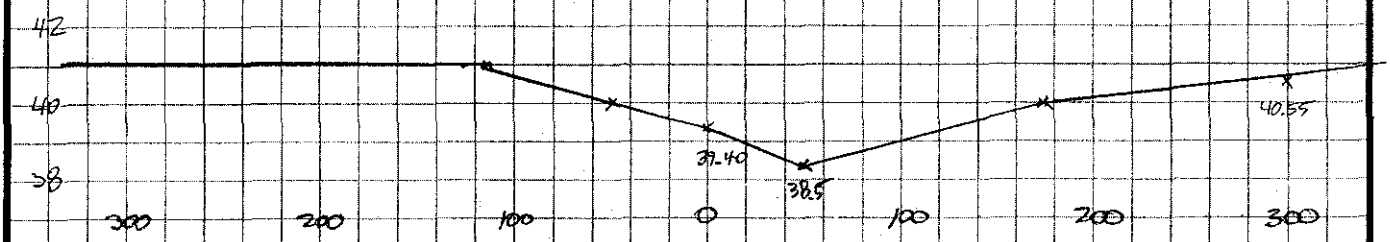
COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

PEORIA AVENUE AND BULLARD AVENUE

CP166 TO CP180 CP166 TO CP167



PEORIA AVENUE (WEST) REMAINDER (BERM)
S = .02 1/1

BULLARD AVENUE (NORTH) DIVERSION
S = .028 1/1

DT	DI167							
DI	0	67	296	813	1921	3730	6346	9869
DQ	0	67	296	765	1709	3184	5250	7966

Form 209

CP166 TO CP180

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.02
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	63
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.60	48.0	3.35	1.019	0.17	0.77	14.34	42.80	40.0	48
1.10	212.1	4.86	1.119	0.37	1.47	43.61	74.30	40.5	212
1.60	546.3	6.16	1.187	0.59	2.19	88.64	105.80	41.0	546
2.10	1096.1	7.34	1.239	0.84	2.94	149.41	137.30	41.5	1096
2.60	1902.7	8.42	1.283	1.10	3.70	225.94	168.80	42.0	1903
3.10	3003.8	9.44	1.320	1.38	4.48	318.21	200.30	42.5	3004

Enter Depth of Flow, or Press the <Esc> Key to End

CP166 TO CP167

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.028
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	80
Channel Side Slope - Right Side (horizontal/vertical)	55
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	66.6	3.44	1.172	0.18	0.68	19.38	72.50	39.0	67
0.90	295.5	4.99	1.287	0.39	1.29	59.17	126.50	39.4	296

CP166 TO CP167

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.028
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	120

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.60	468.9	5.21	1.298	0.42	1.02	90.00	180.00	40.0	765
1.10	1412.5	7.34	1.413	0.84	1.94	192.50	230.00	40.5	1709
1.60	2888.2	9.03	1.488	1.26	2.86	320.00	280.00	41.0	3184
2.10	4954.0	10.48	1.544	1.71	3.81	472.50	330.00	41.5	5250
2.60	7670.5	11.80	1.590	2.16	4.76	650.00	380.00	42.0	7966

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS Prepared by JSE Date 12-3-90

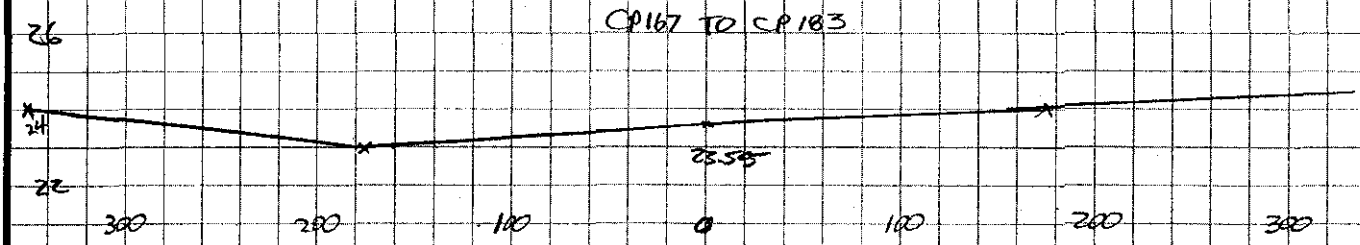
DIVERSION TABLES

PEORIA AVENUE AND LITCHFIELD ROAD

CP167 TO CP183A

CP167 TO CP168

CP167 TO CP183



PEORIA AVENUE (WEST) REMAINDER S = .053 1/1

INT. LITCHFIELD ROAD (NORTH) DIVERSION ① S = .031 1/1

DIVERSION ② S = .0044 1/1

DT	1 D 183						
DI	0	274	1281	3337	6703	11624	18322
DQ	0	0	335	1021	2143	3783	6016

DT	2 D 168						
DI	0	274	946	2316	4560	7841	12306
DQ	0	0	64	250	587	1107	1838

Form 209

CP167 TO CP181A

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.053
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	274.1	5.48	1.673	0.47	0.97	50.00	150.00	23.5	274
1.00	1216.8	8.11	1.846	1.02	2.02	150.00	250.00	24.0	1217
1.50	3086.8	10.29	1.959	1.64	3.14	300.00	350.00	24.5	3087
2.00	6116.4	12.23	2.045	2.32	4.32	500.00	450.00	25.0	6116
2.50	10516.8	14.02	2.116	3.05	5.55	750.00	550.00	25.5	10517
3.00	16484.0	15.70	2.177	3.83	6.83	1050.00	650.00	26.0	16484

CP167 TO CP168

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	63.9	1.70	0.490	0.05	0.55	37.50	100.00	24.0	64
1.00	249.6	2.50	0.539	0.10	1.10	100.00	150.00	24.5	250
1.50	587.2	3.13	0.570	0.15	1.65	187.50	200.00	25.0	587
2.00	1107.2	3.69	0.594	0.21	2.21	300.00	250.00	25.5	1107
2.50	1838.3	4.20	0.613	0.27	2.77	437.50	300.00	26.0	1838
3.00	2807.7	4.68	0.630	0.34	3.34	600.00	350.00	26.5	2808

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

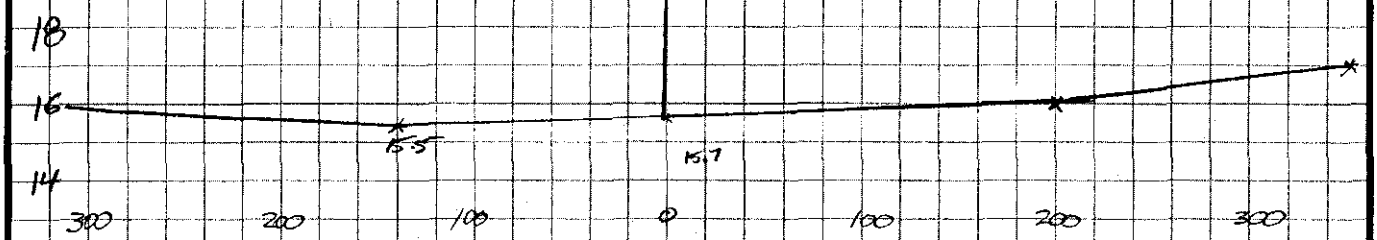
COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

PEORIA AVENUE AND ½ MILE EAST OF LITCHFIELD RD.
(AT&SF RR.)

CP168 TO CP183 | CP168 TO CP169



PEORIA AVENUE (WEST) REMAINDER S = .0045%

AT&SF RR. (NORTH) DIVERSION S = .0071%

DT	2D169							
DI	0	4	282	1072	2510	4582	7322	10770
DQ	0	0	59	334	981	1974	3330	5068

Form 209

CP168 TO CP183

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0045
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.20	3.8	0.77	0.406	0.01	0.21	5.00	45.00	157	4

CP168 TO CP183

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0045
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	200

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.50	219.2	1.95	0.512	0.06	0.56	112.50	250.00	16.0	223
1.00	734.0	2.94	0.567	0.13	1.13	250.00	300.00	16.5	738
1.50	1524.9	3.70	0.600	0.21	1.71	412.50	350.00	17.0	1529
2.00	2603.7	4.34	0.624	0.29	2.29	600.00	400.00	17.5	2608
2.50	3988.3	4.91	0.644	0.37	2.87	812.50	450.00	18.0	3992
3.00	5698.6	5.43	0.660	0.46	3.46	1050.00	500.00	18.5	5702
3.50	7755.0	5.91	0.674	0.54	4.04	1312.50	550.00	19.0	7759

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CP 168 TO CP 169

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0071
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.30	59.4	1.72	0.589	0.05	0.35	34.50	130.00	16.0	59

CP 168 TO CP 169

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0071
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	200

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.50	275.4	2.45	0.643	0.09	0.59	112.50	250.00	16.5	334
1.00	922.0	3.69	0.712	0.21	1.21	250.00	300.00	17.0	981
1.50	1915.5	4.64	0.754	0.33	1.83	412.50	350.00	17.5	1974
2.00	3270.6	5.45	0.784	0.46	2.46	600.00	400.00	18.0	3330
2.50	5009.7	6.17	0.809	0.59	3.09	812.50	450.00	18.5	5068
3.00	7157.9	6.82	0.829	0.72	3.72	1050.00	500.00	19.0	7217

Enter Depth of Flow, or Press the <Esc> Key to End

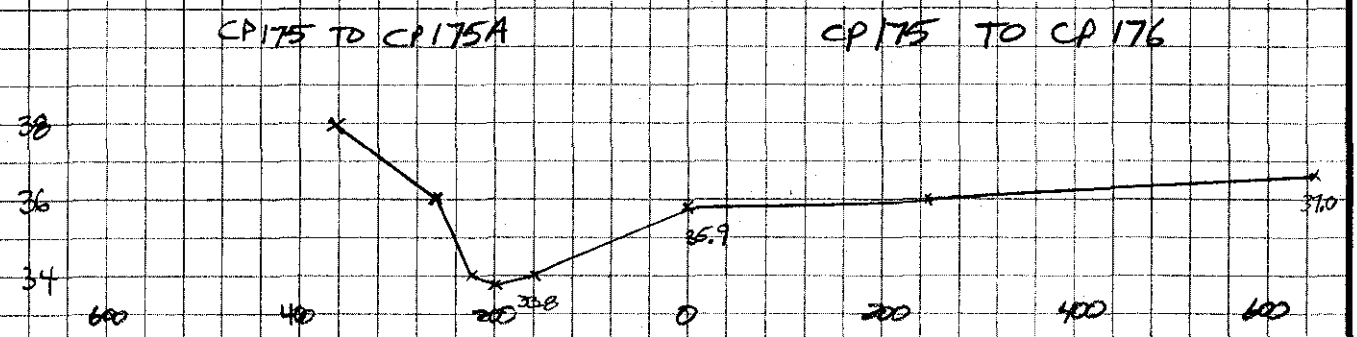
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-4-90

DIVERSION TABLES

OLIVE AVENUE AND ½ MILE WEST OF CITRUS ROAD



OLIVE AVENUE (WEST)
DIVERSION
S= .0022 ft/ft

½ MILE WEST OF CITRUS RD (NORTH)
REMAINDER
S= .008 ft/ft

DT	DI175A									
DI	0	53	200	459	854	1367	2544	4308	6658	9613
DQ	0	53	200	459	854	1047	1478	2105	2915	3906

Form 209

CP175 TO CP175A

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0022
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	80
Channel Side Slope - Right Side (horizontal/vertical)	20
Channel Bottom Width (feet)	60

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	52.4	1.23	0.349	0.02	0.52	42.50	110.00	34.5	53
1.00	199.0	1.81	0.385	0.05	1.05	110.00	160.00	35.0	200
1.50	459.1	2.27	0.407	0.08	1.58	202.50	210.00	35.5	457
2.00	853.7	2.67	0.424	0.11	2.11	320.00	260.00	36.0	854

CP175 TO CP175A

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0022
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	50
Channel Bottom Width (feet)	260

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	193.3	1.42	0.362	0.03	0.53	136.25	285.00	36.5	1047
1.00	624.7	2.19	0.403	0.07	1.07	285.00	310.00	37.0	1478
1.50	1251.4	2.80	0.428	0.12	1.62	446.25	335.00	37.5	2105
2.00	2061.9	3.33	0.447	0.17	2.17	620.00	360.00	38.0	2915
2.53	3117.9	3.81	0.462	0.23	2.76	817.82	386.50	38.5	3906
2.50	3052.8	3.79	0.461	0.22	2.72	806.25	385.00		
3.00	4224.1	4.20	0.473	0.27	3.27	1005.00	410.00		

Enter Depth of Flow, or Press the <Esc> Key to End

CP175 TO CP176

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	220

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.50	320.1	2.61	0.684	0.11	0.61	122.50	270.00	36.5	320
1.00	1065.9	3.95	0.757	0.24	1.24	270.00	320.00	37.0	1066
1.50	2202.9	4.98	0.802	0.38	1.88	442.50	370.00	37.5	2203
2.00	3742.8	5.85	0.835	0.53	2.53	640.00	420.00	38.0	3743
2.50	5707.3	6.62	0.861	0.68	3.18	862.50	470.00	38.5	5707
3.00	8121.5	7.32	0.883	0.83	3.83	1110.00	520.00		
3.50	11011.7	7.97	0.901	0.99	4.49	1382.50	570.00		

Enter Depth of Flow, or Press the <Esc> Key to End

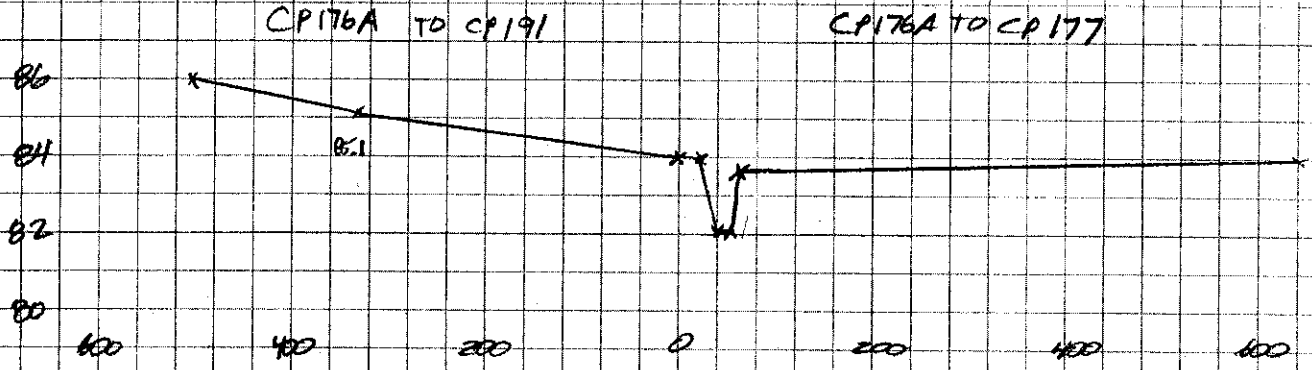
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-4-90

DIVERSION TABLES

OLIVE AVENUE AND COTTON LANE (AT+SF R.R)



OLIVE AVENUE (WEST) DIVERSION S = .0133 1/1

AT+SF RR (NORTH) REMAINDER S = .02 1/1

DT	DI 191								
DI	0	47	164	349	497	1107	2599	4968	8289
DQ	0	0	0	0	0	60	278	719	1444

Form 209

CP176A TO CP191

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	20

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	60.0	2.67	0.829	0.11	0.61	22.50	70.00	84.5	60
1.00	277.6	3.97	0.915	0.24	1.24	70.00	120.00	85.0	278
1.50	719.4	5.05	0.972	0.40	1.90	142.50	170.00	85.5	719
2.00	1444.1	6.02	1.015	0.56	2.56	240.00	220.00	86.0	1444
2.50	2504.6	6.91	1.051	0.74	3.24	362.50	270.00	86.5	2505

Enter Depth of Flow, or Press the <Esc> Key to End

CP176A TO CP177

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.02
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	5
Channel Side Slope - Right Side (horizontal/vertical)	10
Channel Bottom Width (feet)	20

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	47.4	3.99	1.071	0.25	0.75	11.88	27.50	825	47
1.00	163.6	5.95	1.182	0.55	1.55	27.50	35.00	830	164
1.50	349.3	7.45	1.250	0.86	2.36	46.88	42.50	835	349
1.80	496.9	8.24	1.282	1.05	2.85	60.30	47.00	840	497

CP176A TO CP177

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.02
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	240

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	550.0	4.15	1.082	0.27	0.77	132.50	290.00	845	1047
1.00	1823.5	6.29	1.200	0.61	1.61	290.00	340.00	850	2321
1.50	3751.9	7.94	1.271	0.98	2.48	472.50	390.00	855	4249
2.00	6348.0	9.34	1.323	1.35	3.35	680.00	440.00	860	6845

Enter Depth of Flow, or Press the <Esc> Key to End

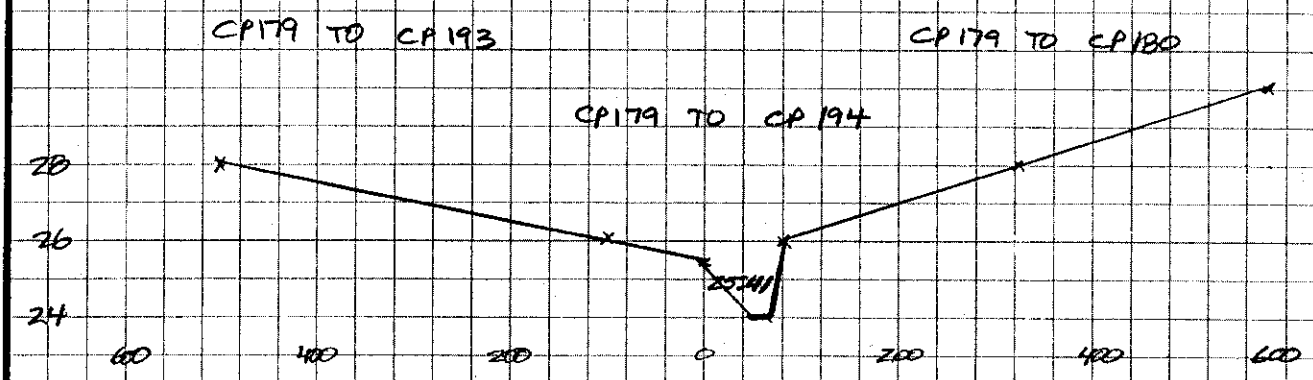
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

OLIVE AVENUE AND REEMS ROAD



OLIVE AVENUE (WEST) DIVERSION ① INT. DIVERSION ② REEMS ROAD (NORTH ALONG EAST BERM) REMAINDER

S = .0128 ft/ft S = .0114 ft/ft S = .029 ft/ft

3 ft Berm exists on Southeast corner of Int. Flows will not go overland to the southeast until Water Depth > 3.0 ft.

DT DI 193

DI	0	77	285	644	1182	1466	2284	3759	6020
DQ	0	0	0	0	0	754	1254	2185	3642

DT DI 194

DI	0	77	285	644	1182	712	1030	1574	2378
DQ	0	0	0	0	0	0	0	0	0

Form 209

CP 179 TO CP 193 + CP 179 to CP 194

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0128
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	10

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.
0.50	42.9	2.45	0.800	0.09	0.59	17.50	60.00	26.5
1.00	223.1	3.72	0.887	0.21	1.21	60.00	110.00	27.0
1.50	610.3	4.79	0.945	0.36	1.86	127.50	160.00	27.5
2.00	1263.7	5.74	0.989	0.51	2.51	220.00	210.00	28.0
2.50	2236.3	6.63	1.025	0.68	3.18	337.50	260.00	
3.00	3577.1	7.45	1.055	0.86	3.86	480.00	310.00	
3.50	5331.9	8.23	1.082	1.05	4.55	647.50	360.00	

Enter Depth of Flow, or Press the <Esc> Key to End

CP 179 TO CP180

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.029
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	25
Channel Side Slope - Right Side (horizontal/vertical)	10
Channel Bottom Width (feet)	25

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	76.9	4.55	1.274	0.32	0.82	16.88	42.50	24.5	77
1.00	284.6	6.70	1.402	0.70	1.70	42.50	60.00	25.0	285
1.50	644.4	8.38	1.483	1.09	2.59	76.87	77.50	25.5	644
2.00	1181.7	9.85	1.544	1.51	3.51	120.00	95.00	26.0	1182
2.50	1921.2	11.18	1.594	1.94	4.44	171.88	112.50		
3.00	2886.5	12.42	1.636	2.39	5.39	232.50	130.00		
3.50	4100.2	13.58	1.673	2.86	6.36	301.87	147.50		

CP179 TO CP 180 & CP179 TO CP194

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.029
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	80

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	241.3	4.60	1.275	0.33	0.83	52.50	130.00	26.5	1423
1.00	879.4	6.76	1.403	0.71	1.71	130.00	180.00	27.0	2061
1.50	1966.8	8.46	1.483	1.11	2.61	232.50	230.00	27.5	3149
2.00	3573.5	9.93	1.543	1.53	3.53	360.00	280.00	28.0	4756
2.50	5768.3	11.26	1.592	1.97	4.47	512.50	330.00		

Enter Depth of Flow, or Press the <Esc> Key to End

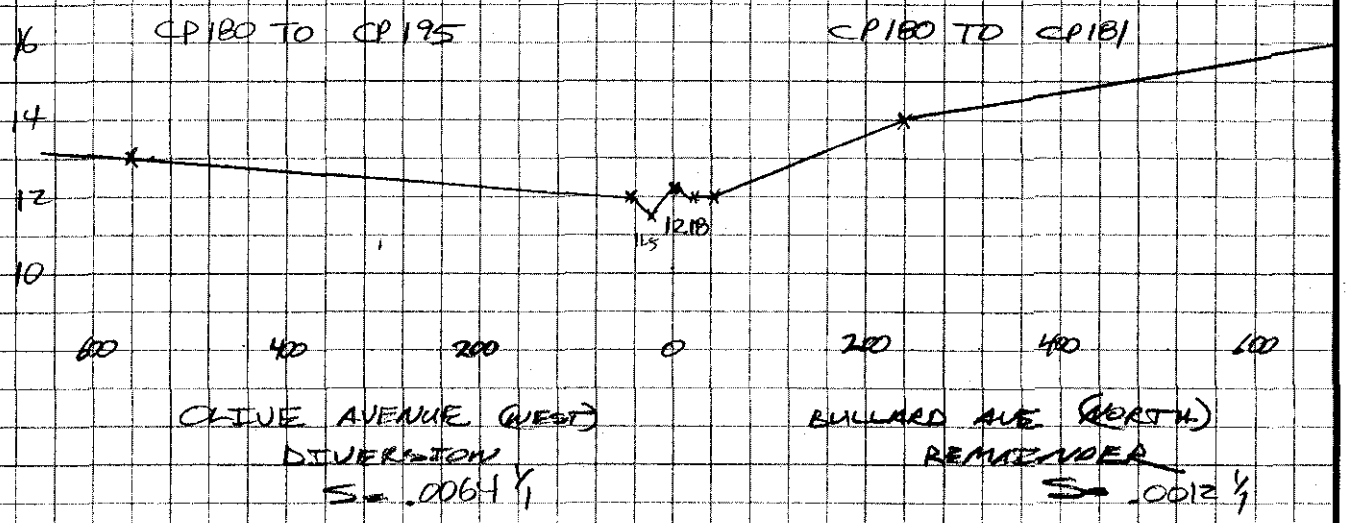
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

OLIVE AVENUE AND BULLARD AVENUE



DT	1D195						
DI	0	6	234	802	1724	3040	4789
DQ	0	6	206	687	1448	2560	3899

Form 209

CP 180 TO CP 181

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0012
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	40

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	28.2	0.87	0.254	0.01	0.51	32.50	90.00	12.5	28
1.00	114.5	1.27	0.280	0.03	1.03	90.00	140.00	13.0	115
1.50	276.1	1.60	0.296	0.04	1.54	172.50	190.00	13.5	276
2.00	529.5	1.89	0.309	0.06	2.06	280.00	240.00	14.0	530
2.50	890.1	2.16	0.319	0.07	2.57	412.50	290.00	14.5	890
3.00	1372.2	2.41	0.328	0.09	3.09	570.00	340.00	15.0	1372

Enter Depth of Flow, or Press the <Esc> Key to End

CP180 TO CP195

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0064
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	10
Channel Side Slope - Right Side (horizontal/vertical)	10
Channel Bottom Width (feet)	2

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	6.1	1.74	0.567	0.05	0.55	3.50	12.00	12.0	6

CP180 TO CP195

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0064
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	150

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.50	199.5	2.28	0.607	0.08	0.58	87.50	200.00	12.5	206
1.00	681.2	3.41	0.671	0.18	1.18	200.00	250.00	13.0	687
1.50	1441.8	4.27	0.710	0.28	1.78	337.50	300.00	13.5	1448
2.00	2503.6	5.01	0.738	0.39	2.39	500.00	350.00	14.0	2510
2.50	3892.7	5.66	0.761	0.50	3.00	687.50	400.00	14.5	3899

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

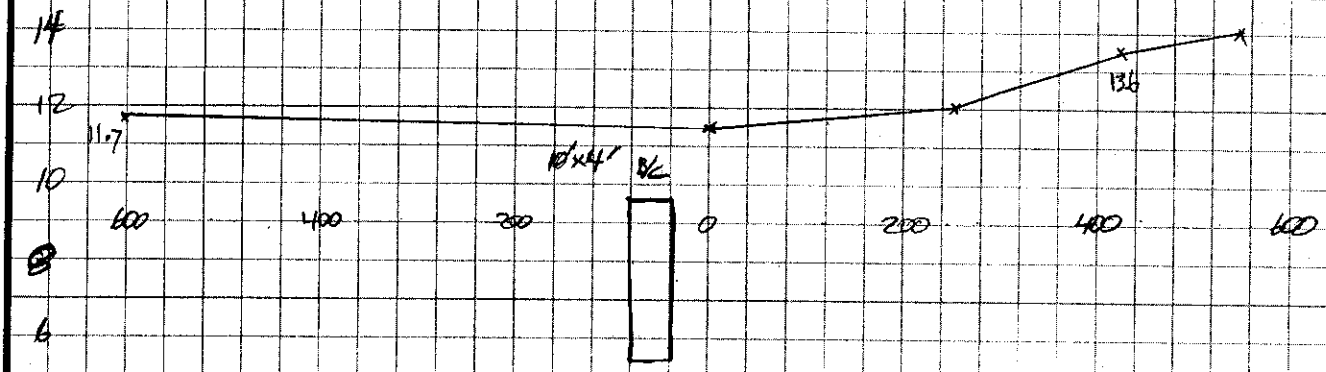
COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

OLIVE AVENUE AND ½ MILE EAST OF BULLARD AVENUE (AT ATSF RR)

CP 181 TO CP 195 CP 181 TO CP 182



OLIVE AVENUE (WEST) DIVERSION $S = .005$ ft/ft

½ MILE EAST of BULLARD AVE (AT ATSF RR) REMAINDER $S = .004$ ft/ft

OT 20 195

DI	0	100	200	328	900	1251	3000	6011
DQ	0	100	200	328	900	1026	2250	4208

$Q = CLH^{3/2}$ $C = 2.5$ $L = 850$

at $D = .5$ $Q = 2.5\ 850(.5)^{3/2} = 751$ cfs

at $D = 1.0$ $L = 1000$ $Q = 2500$ cfs

at $D = 1.5$ $L = 1200$ $Q = 5511$ cfs

Form 209

CP181 TO CP195

BOX CULVERT ANALYSIS

COMPUTATION OF PERFORMANCE CURVE

Culvert Span (Width of Opening) (feet)	10
Culvert Rise (Height of Opening) (feet)	4
FHWA Chart Number (8,9,10,11,12 or 13)	8
Scale Number on Chart (Type of Culvert Entrance)	1
Manning's Roughness Coefficient (n-value)	0.012
Entrance Loss Coefficient of Culvert Opening	0.5
Culvert Length (feet)	80
Culvert Slope (feet per foot)	.005

Flow Rate (cfs)	Tailwater Depth(ft)	..Headwater (ft).. In.Ctrl.	Out.Ctrl.	Normal Depth(ft)	Critical Depth(ft)	Depth at Outlet(ft)	Outlet Vel.(fps)
100.00	1.00	2.32	2.50	1.18	1.46	1.46	6.85
200.00	1.50	3.73	3.42	1.86	2.32	1.86	10.74
328.00	2.00	5.83	4.99	2.61	3.22	2.61	12.55
500.00	2.50	9.26	7.74	3.52	4.00	3.52	14.20

Enter Flow Rate and Tailwater, or Press the <Esc> Key to End

CP181 TO CP195

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning's Roughness Coefficient (n-value)	.025
Channel Side Slope - Left Side (horizontal/vertical)	5
Channel Side Slope - Right Side (horizontal/vertical)	5
Channel Bottom Width (feet)	20

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.50	27.7	2.46	0.647	0.09	0.59	11.25	25.00
1.00	92.6	3.71	0.715	0.21	1.21	25.00	30.00
1.50	192.4	4.66	0.757	0.34	1.84	41.25	35.00
2.00	328.3	5.47	0.787	0.46	2.46	60.00	40.00
2.50	502.7	6.19	0.811	0.59	3.09	81.25	45.00
3.00	718.0	6.84	0.832	0.73	3.73	105.00	50.00
3.50	976.9	7.44	0.849	0.86	4.36	131.25	55.00
4.00	1281.9	8.01	0.865	1.00	5.00	160.00	60.00
4.50	1635.6	8.55	0.879	1.14	5.64	191.25	65.00
5.00	2040.5	9.07	0.891	1.28	6.28	225.00	70.00
5.50	2499.1	9.57	0.903	1.42	6.92	261.25	75.00
6.00	3013.7	10.05	0.914	1.57	7.57	300.00	80.00
6.50	3586.9	10.51	0.924	1.72	8.22	341.25	85.00

Enter Depth of Flow, or Press the <Esc> Key to End

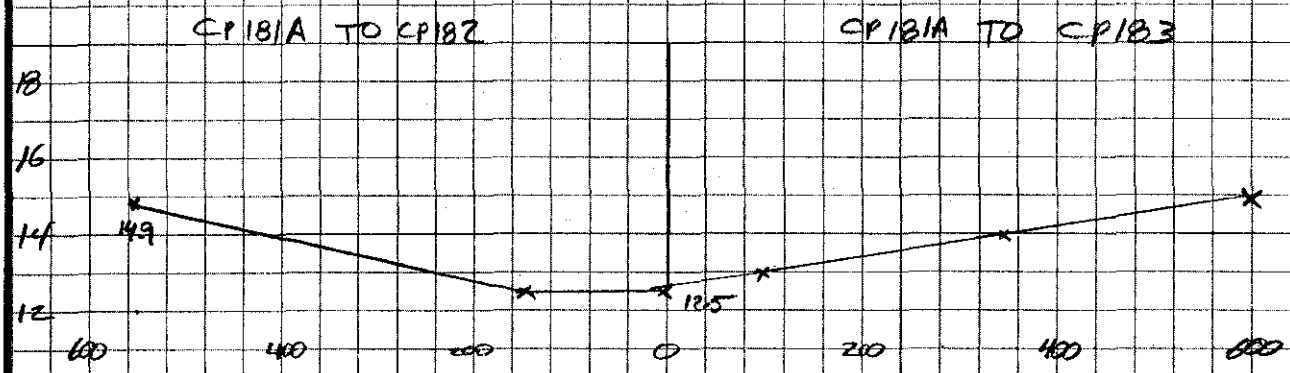
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSF Date 12-3-90

DIVERSION TABLES

LITCHFIELD ROAD AND ATYSF RAILROAD



ATaSF RR (WEST)
REMAINDER
S = .0042 ft/ft

LITCHFIELD ROAD (NORTH)
DIVERSION
S = 1/400 = .0025 ft/ft

DT	20/183								
DI	0	133	491	1117	1637	2812	4542	6810	9620
DQ	0	12	77	241	457	727	1631	2557	3709

Form 209

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0042
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	150

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	121.2	1.39	0.369	0.03	0.53	87.50	200.00	13.0	121
1.00	413.9	2.07	0.408	0.07	1.07	200.00	250.00	13.5	414
1.50	876.0	2.60	0.431	0.10	1.60	337.50	300.00	14.0	876

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0042
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	400

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	310.0	1.46	0.374	0.03	0.53	212.50	450.00	14.5	1186
1.00	1008.6	2.24	0.416	0.08	1.08	450.00	500.00	15.0	1885
1.50	2034.8	2.86	0.442	0.13	1.63	712.50	550.00	15.5	2911
2.00	3376.9	3.38	0.461	0.18	2.18	1000.00	600.00	16.0	4253
2.50	5035.3	3.84	0.476	0.23	2.73	1312.50	650.00	16.5	5911

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

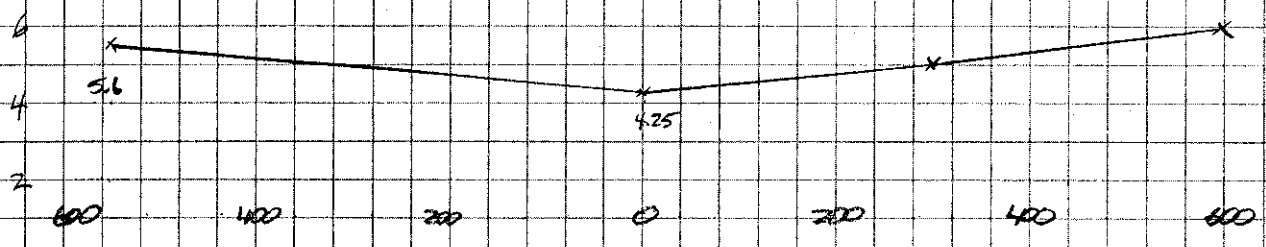
COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

OLIVE AVENUE AND LITCHFIELD ROAD

CP 182 TO CP196 CP 182 TO CP 184



OLIVE AVENUE (WEST) DIVERSION
S= .0035 1/1

LITCHFIELD ROAD (NORTH) REMAINDER
S= .0033 1/1

DT	DI 196					
DI	0	173	611	1387	2388	3802
DQ	0	88	310	659	1212	1929

Form 209

CP 182 TO CP 196

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0035
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.50	87.4	1.40	0.382	0.03	0.53	62.50	150.00
1.00	310.0	2.07	0.421	0.07	1.07	150.00	200.00
1.50	678.4	2.58	0.444	0.10	1.60	262.50	250.00
2.00	1211.7	3.03	0.462	0.14	2.14	400.00	300.00
2.50	1929.3	3.43	0.477	0.18	2.68	562.50	350.00

CP 182 TO CP 184

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0033
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.50	84.8	1.36	0.371	0.03	0.53	62.50	150.00
1.00	301.0	2.01	0.408	0.06	1.06	150.00	200.00
1.50	658.8	2.51	0.432	0.10	1.60	262.50	250.00
2.00	1176.6	2.94	0.449	0.13	2.13	400.00	300.00
2.50	1873.4	3.33	0.463	0.17	2.67	562.50	350.00

Enter Depth of Flow, or Press the <Esc> Key to End

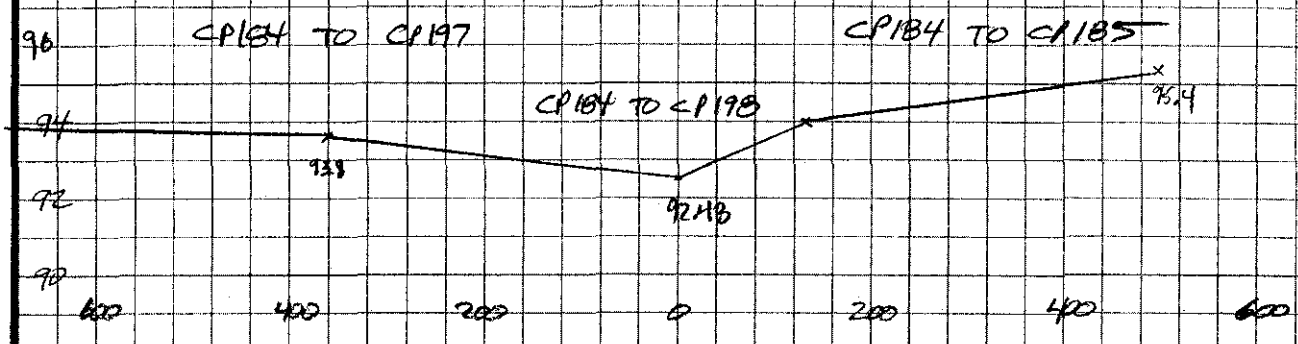
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject NHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

OLIVE AVENUE AND DYSART ROAD



Assume Approximately 40% 40% 20% Split

DT DI 197

DI	0	350	1274	2834	4789	7664
DQ	0	140	509	1134	1916	3066

DT DI 198

DI	0	210	765	1700	2873	4598
DQ	0	140	509	1134	1916	3066

Form 209

CP184 TO CP197 & CP184 TO CP198

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	150

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	315.4	3.60	0.960	0.20	0.70	87.50	200.00	930	315
1.00	1077.0	5.39	1.061	0.45	1.45	200.00	250.00	935	1077
1.50	2279.7	6.75	1.122	0.71	2.21	337.50	300.00	940	2280
2.00	3958.6	7.92	1.167	0.97	2.97	500.00	350.00	945	3959
2.5	6155	8.95	1.203	1.24	3.74	687.50	400	950	6155

Enter Depth of Flow, or Press the <Esc> Key to End

CP184 TO CP185

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	87
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	35.3	2.64	0.885	0.11	0.61	13.37	48.50	93.0	35
1.00	196.9	4.06	0.985	0.26	1.26	48.50	92.00	93.5	197
1.50	554.2	5.26	1.051	0.43	1.93	105.37	135.50	94.0	554

CP184 TO CP185

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	130

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	276.4	3.57	0.958	0.20	0.70	77.50	180.00	94.5	830
1.00	955.0	5.31	1.057	0.44	1.44	180.00	230.00	95.0	1509
1.50	2043.5	6.65	1.118	0.69	2.19	307.50	280.00	95.5	2598
2.00	3582.0	7.79	1.162	0.94	2.94	460.00	330.00	96.0	4136

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

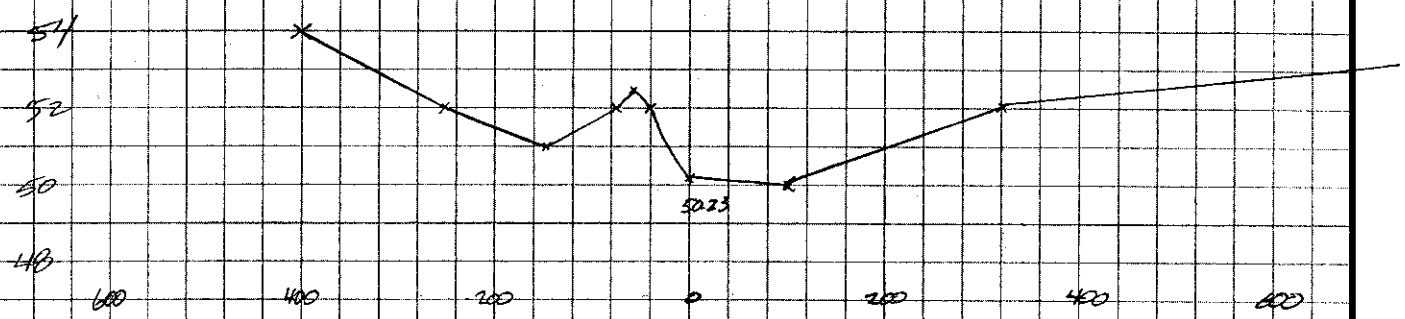
COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

NORTHERN AVENUE AND COTTON LANE

CP191 TO CP208 CP191 TO CP192



NORTHERN AVENUE (WEST) DIVERSION S = .05 1/1

COTTON LANE (NORTH) REMAINDER S = .029 1/1

DT	DI208								
DI	0	80	468	1339	2000	3000	4000	5000	6000
DQ	0	80	468	1339	1339	1339	1339	1339	1339

Form 209

CP 191 TO CP 208

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.05
Manning°s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	60
Channel Side Slope - Right Side (horizontal/vertical)	83
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.50	80.1	3.93	1.342	0.24	0.74	20.37	76.50
1.00	467.7	6.11	1.499	0.58	1.58	76.50	148.00
1.50	1339.4	7.95	1.601	0.98	2.48	168.37	219.50

CP 191 TO CP 192

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.029
Manning°s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	30
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.50	260.7	3.93	1.094	0.24	0.74	66.25	165.00
1.00	956.0	5.79	1.205	0.52	1.52	165.00	230.00
1.50	2147.8	7.25	1.275	0.82	2.32	296.25	295.00
2.00	3916.0	8.51	1.327	1.13	3.13	460.00	360.00

Enter Depth of Flow, or Press the <Esc> Key to End

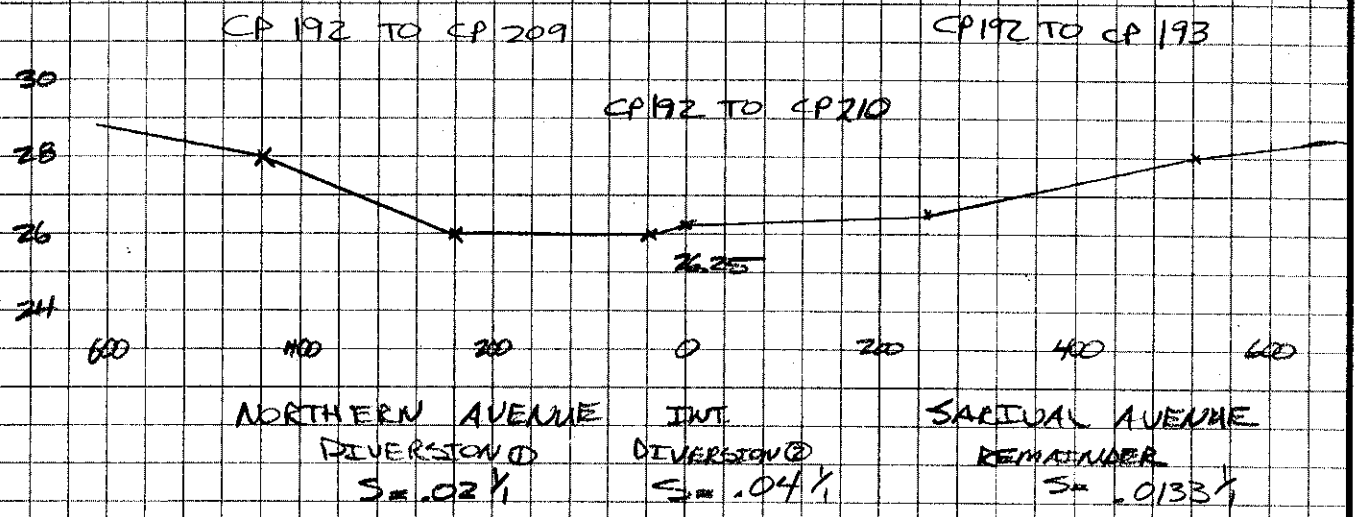
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-3-90

DIVERSION TABLES

NORTHERN AVENUE AND SARIVAL AVENUE



There is a small berm on the southeast corner of this intersection approximately two feet high.

DT	DI 209						
DI	0	126	480	965	3703	6169	9453
DQ	0	126	419	853	3404	5491	8154

DT	DI 210						
DI	0	61	112	299	678	1299	2208
DQ	0	0	0	0	0	433	736

Form 209

CP192 TO CP209

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.02
Manning`s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	200

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.25	124.9	2.22	0.825	0.08	0.33	56.25	250.00	26.25	126
0.50	418.7	3.35	0.914	0.17	0.67	125.00	300.00	26.50	419

CP192 TO CP209

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.02
Manning`s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	220

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	433.8	3.54	0.926	0.19	0.69	122.50	270.00	27.0	853
1.50	2985.4	6.75	1.087	0.71	2.21	442.50	370.00	27.5	3404
2.00	5072.4	7.93	1.131	0.98	2.98	640.00	420.00	28.0	5491
2.50	7734.9	8.97	1.167	1.25	3.75	862.50	470.00	28.5	8154
3.00	11006.8	9.92	1.196	1.53	4.53	1110.00	520.00	29.0	11426

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.02
Manning`s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	220

*** RESULTS ***

Depth Flow Rate Velocity Froude Velocity Energy Flow Area Top Width

CP 192 TO CP 193

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning`s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	120

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.25	60.5	1.83	0.674	0.05	0.30	33.13	145.00	26.50	61

CP192 TO CP193

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning`s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	20

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	51.4	2.29	0.711	0.08	0.58	22.50	70.00	27	112
1.00	238.0	3.40	0.784	0.18	1.18	70.00	120.00	27.5	299
1.50	616.7	4.33	0.833	0.29	1.79	142.50	170.00	28	678
2.00	1237.8	5.16	0.870	0.41	2.41	240.00	220.00	28.5	1299
2.50	2146.8	5.92	0.901	0.54	3.04	362.50	270.00	29	2208
3.00	3385.9	6.64	0.927	0.68	3.68	510.00	320.00	29.5	3447

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 7-26-91

DIVERSION TABLE

CP 193 INTERSECTION OF REEMS ROAD AND NORTHERN AVE.

WEIR FLOW SOUTH OVER NORTHERN AVENUE
COMPUTED BY HEC-2 SIDE WEIR ANALYSIS.

DT DI 211

DI	0	500	520	580	650	1000	1500	2000	2347	3000
DQ	0	0	4	27	67	332	768	1219	1535	2139

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-29-91

DIVERSION TABLE

CP 195 WEST OF 2-10'x5' BOX CULVERTS ON DYSART DRAIN

WEIR FLOW SOUTH OVER NOTCH IN DIKE
COMPUTED BY HEC-2 SIDE WEIR ANALYSIS

DT 1D201

DI	0	410	430	500	1000	1500	2000	2500	3000
DQ	0	0	13	67	543	991	1491	1991	2491

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 7-29-91

DIVERSION TABLE

CP 196 JUST EAST OF LITCHFIELD ROAD ON DYSART DRAIN

WEIR FLOW SOUTH OVER SOUTH BANK OF CHANNEL
COMPUTED BY HEC-2 SIDE WEIR ANALYSIS.

DT ID 226

DI	0	100	250	300	500	1000	1500	2000
DQ	0	0	0	27	199	650	1100	1448

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 202 S=.0009 ft/ft N=.016 BW=10

CAPACITY OF DYSART DRAIN AT DYSART ROAD

DT 2D226

DI	0	500	1000	2000	2599	5604	10604
DQ	0	0	0	0	0	3005	8005

Form 209

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION
February 28, 1991

==========

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0009
Manning's Roughness Coefficient (n-value).....	0.0160
Channel Side Slope - Left Side (horizontal/vertical)....	2.00
Channel Side Slope - Right Side (horizontal/vertical)...	2.00
Channel Bottom Width (feet).....	10.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
1.0	29.5	2.46	0.468	0.094	1.094	12.0	14.0
2.0	101.2	3.62	0.511	0.203	2.203	28.0	18.0
3.0	215.8	4.50	0.536	0.314	3.314	48.0	22.0
4.0	377.5	5.24	0.555	0.427	4.427	72.0	26.0
5.0	591.1	5.91	0.571	0.543	5.543	100.0	30.0
6.0	861.3	6.52	0.584	0.661	6.661	132.0	34.0
7.0	1192.7	7.10	0.595	0.783	7.783	168.0	38.0
8.0	1589.9	7.64	0.605	0.907	8.907	208.0	42.0
9.0	2057.2	8.16	0.615	1.035	10.035	252.0	46.0
10.0	2598.9	8.66	0.623	1.165	11.165	300.0	50.0

==========

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092
(713) 895-8322. A manual with equations & flow chart is available.

The WLB Group Inc. WLB

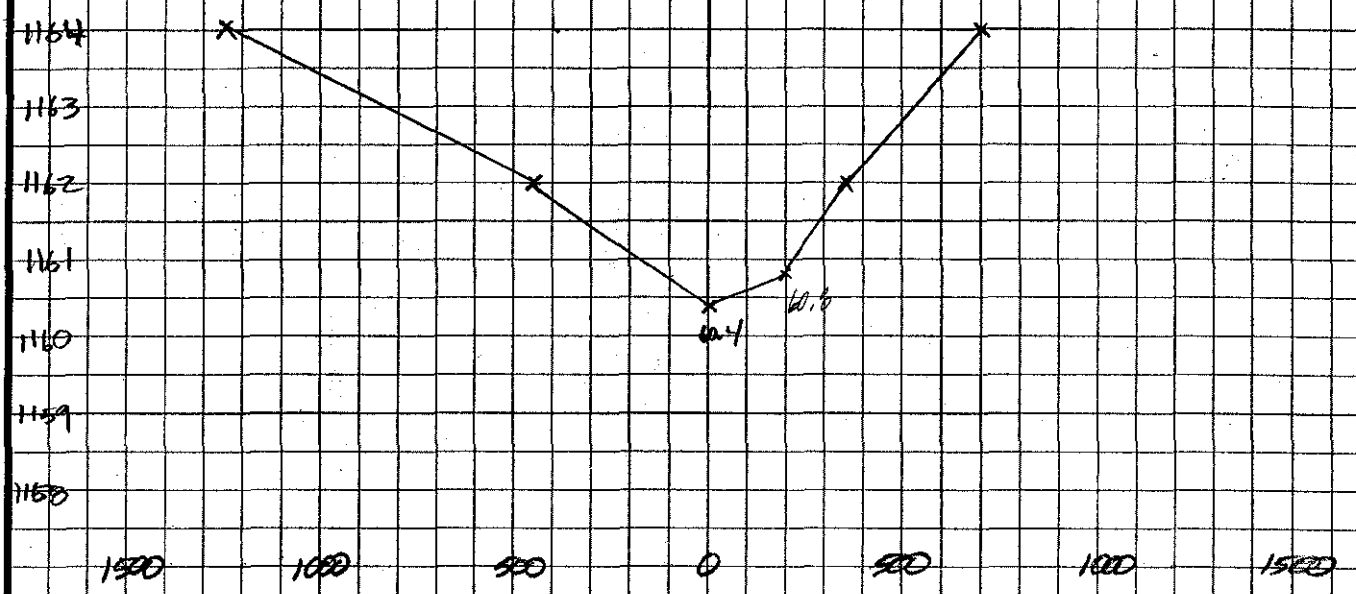
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-4-91

DIVERSION TABLES

SUBBASIN 207 GLENDALE AVE AND CITRUS ROAD

CP 207 TO CP 217 CP 207 TO CP 208



GLENDALE AVENUE (WEST) REMAINDER S = .008 1/1

CITRUS ROAD (NORTH) DIVERSION S = .01 1/1

DT 2D208

DI 0 1709 12182

DQ 0 1314 6607

Form 209

CP 207 TO CP 217

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.60	394.7	2.90	0.563	0.13	1.73	136.00	165.00	1162	395

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	450

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
2.00	5179.9	4.71	0.638	0.34	2.34	1100.00	650.00	1164	5575

Enter Depth of Flow, or Press the <Esc> Key to End

CP207 TO CP208

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.40	15.5	1.55	0.579	0.04	0.44	10.00	45.00	1162.8	15

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	200

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.20	1299.2	4.16	0.743	0.27	1.47	312.00	320.00	1162	1314

Enter Depth of Flow, or Press the <Esc> Key to End

CP207 TO CP208

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	350

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	CR.
2.00	5293.3	5.88	0.810	0.54	2.54	900.00	550.00	1164	6607

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

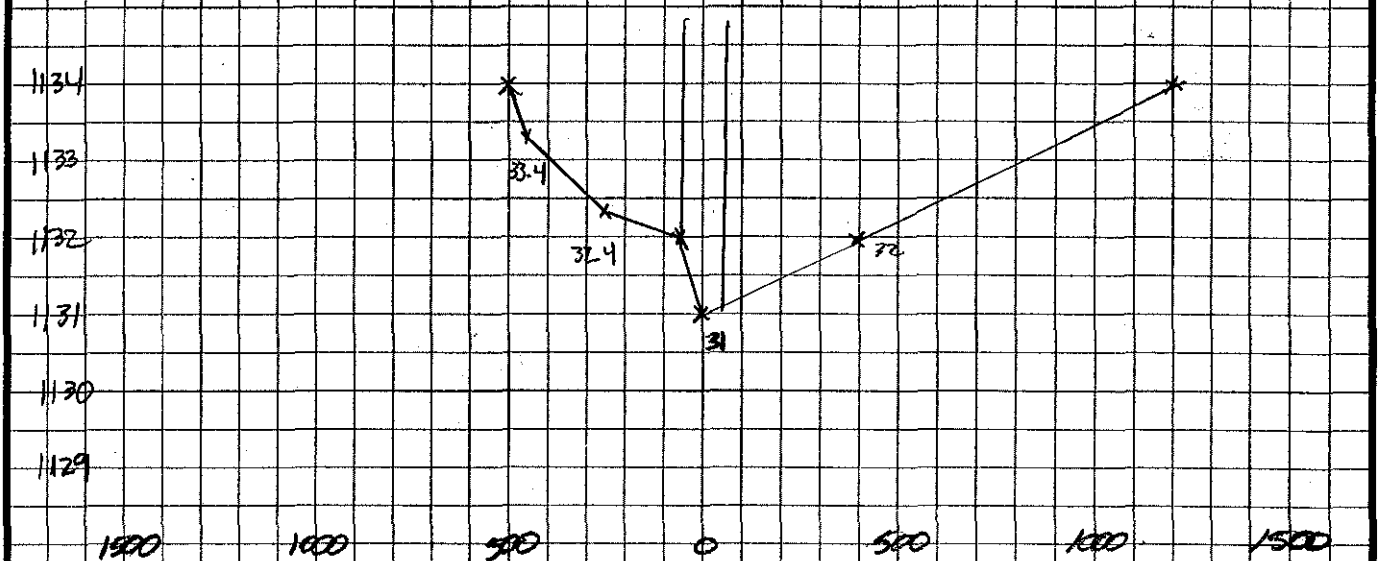
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-4-91

DIVERSION TABLES

SUBBASIN 208 GLENDALE AVENUE AND COTTON LANE

CP 208 TO CP 218 CP 208 TO CP 219 CP 208 TO CP 209A



DT 10219

DI	0	599	5129	9299
DQ	0	406	1039	1295

DT DI209A

DI	0	193	4090	8004
DQ	0	193	4066	7610

Form 209

CP 208 TO CP 218

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning°s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.50	23.8	1.59	0.536	0.04	0.54	15.00	55.00	1132.5	24

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning°s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	369.6	2.27	0.588	0.08	0.58	162.50	350.00	1133.0	394

Enter Depth of Flow, or Press the <Esc> Key to End

CP208 TO CP218

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning°s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	400

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	1590.8	3.54	0.657	0.19	1.19	450.00	500.00	1134.0	1985

Enter Depth of Flow, or Press the <Esc> Key to End

CP208 TO CP219

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	406.1	3.87	0.952	0.23	1.23	105.00	205.00	1132.0	406

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.40	1039.2	7.42	1.106	0.86	2.26	140.00	100.00	1132.5	1039

Enter Depth of Flow, or Press the <Esc> Key to End

CP208 TO CP219

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.60	255.8	4.26	0.970	0.28	0.88	60.00	100.00	1133	1295

Enter Depth of Flow, or Press the <Esc> Key to End

CP 208 TO CP 209A

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.012
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	192.7	3.50	0.853	0.19	1.19	55.00	105.00	1132	193

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.012
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	400

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.40	4066.1	6.18	0.987	0.59	1.99	658.00	540.00	1132.5	4066
2.00	7610.6	7.61	1.039	0.90	2.90	1000.00	600.00	1133.0	7610

Enter Depth of Flow, or Press the <Esc> Key to End

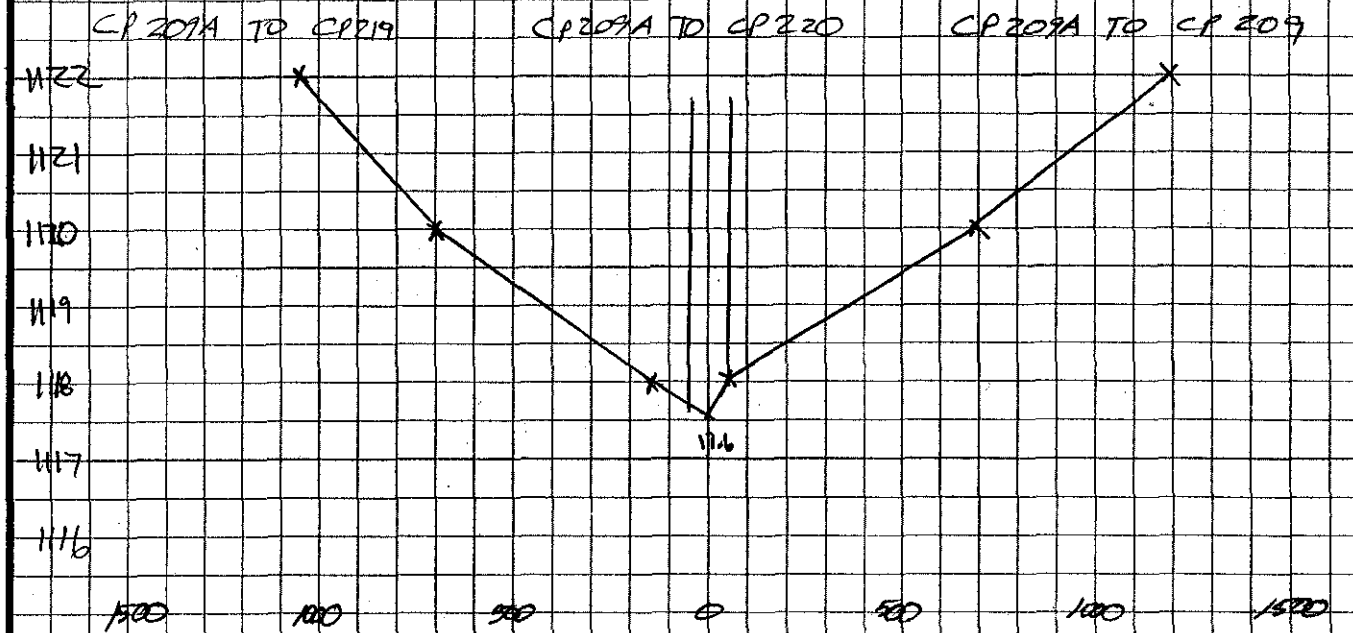
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-4-91

DIVERSION TABLES

SUBBASIN 209A GLENDALE AVENUE AND ½ MILE EAST OF COTTON LANE



DT	ID 220			
DI	0	57	5215	28650
DQ	0	39	1907	3775
DT	ID 209			
DI	0	18	3308	24875
DQ	0	0	900	10854

Form 209

CP 209A TO CP 219

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.40	18.1	1.81	0.675	0.05	0.45	10.00	45.00	1118	18

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
2.00	2389.6	5.97	0.912	0.55	2.55	400.00	300.00	1120	2408

Enter Depth of Flow, or Press the <Esc> Key to End

CP 209A TO CP 21A

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	700

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
2.00	11613.3	7.26	0.959	0.82	2.82	1600.00	900.00	1122	14021

Enter Depth of Flow, or Press the <Esc> Key to End

CP 209A TO CP220

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.40	38.6	2.15	0.822	0.07	0.47	18.00	85.00	1118	39

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
2.00	1868.5	9.34	1.164	1.36	3.36	200.00	100.00	1120	1907

Enter Depth of Flow, or Press the <Esc> Key to End

CP209A TO CP220

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
2.00	1868.5	9.34	1.164	1.36	3.36	200.00	100.00	1122	3775

Enter Depth of Flow, or Press the <Esc> Key to End

CP209A TO CP209

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
2.00	900.2	4.29	0.746	0.29	2.29	210.00	205.00	1120	900

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	700

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
2.00	9954.3	6.22	0.822	0.60	2.60	1600.00	900.00	1122	10854

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

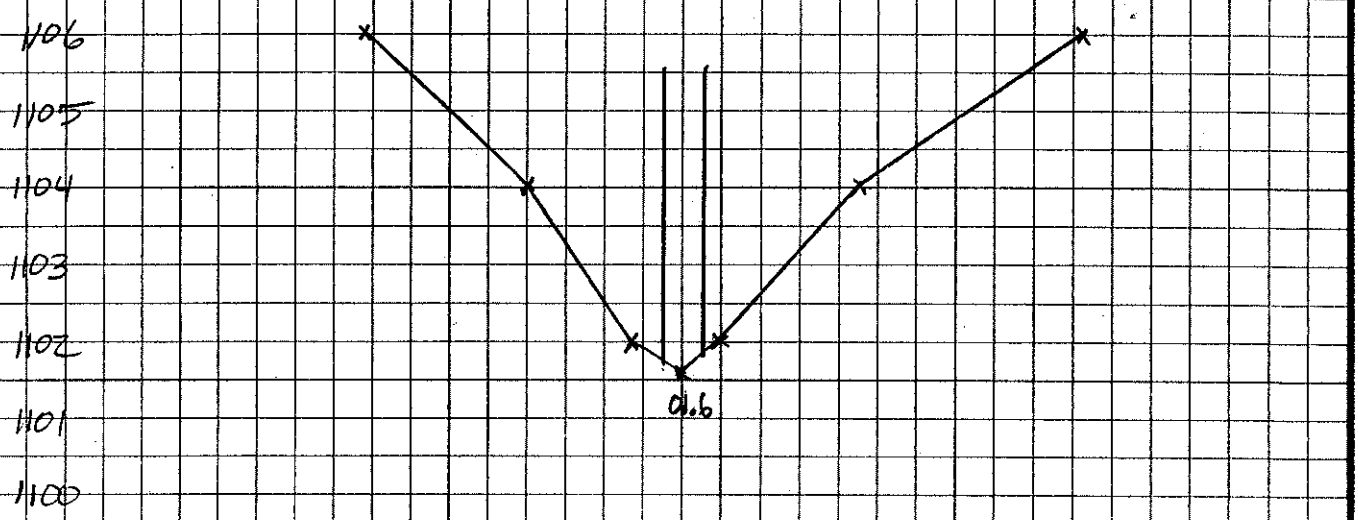
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-4-91

DIVERSION TABLES

SUBBASIN (209) GLENDALE AVENUE AND SARIVAL AVENUE

CP 209 TO CP 220 CP 209 TO CP 221 CP 209 TO CP 210



GLENDALE AVENUE (WEST) REMAINDER S= .008 %

INTERSECTION DIVERSION S= .0061 %

SARIVAL AVENUE (NORTH) DIVERSION S= .0061 %

DT	ID 221			
DI	0	39	3983	16787
DQ	0	34	1666	5085
DT	2D 210			
DI	0	5	2317	11702
DQ	0	0	703	5354

Form 209

CP209 TO CP220

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.25	4.6	1.05	0.483	0.02	0.27	4.38	30.00	1102	5

<Enter>: Repeat, <R>eport, <S>creen Graph, <P>rint Graph, or <Esc>: End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	80

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
2.00	1608.8	4.47	0.695	0.31	2.31	360.00	280.00	1104	1614

Enter Depth of Flow, or Press the <Esc> Key to End

CP209 TO CP220

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	350

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
2.00	4734.4	5.26	0.725	0.43	2.43	900.00	550.00	1106	6348

Enter Depth of Flow, or Press the <Esc> Key to End

CP209 TO(P22)

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0061
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.40	33.7	1.87	0.718	0.05	0.45	18.00	85.00	1102	34

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0061
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
2.00	1631.6	8.16	1.017	1.03	3.03	200.00	100.00	1104	1666
4.00	5051.4	12.63	1.113	2.48	6.48	400.00	100.00	1106	5085

Enter Depth of Flow, or Press the <Esc> Key to End

CP 209 TO CP 210

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0061
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
2.00	703.1	3.35	0.583	0.17	2.17	210.00	205.00	1104	703

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0061
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	400

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
2.00	4651.0	4.65	0.635	0.34	2.34	1000.00	600.00	1106	5354

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

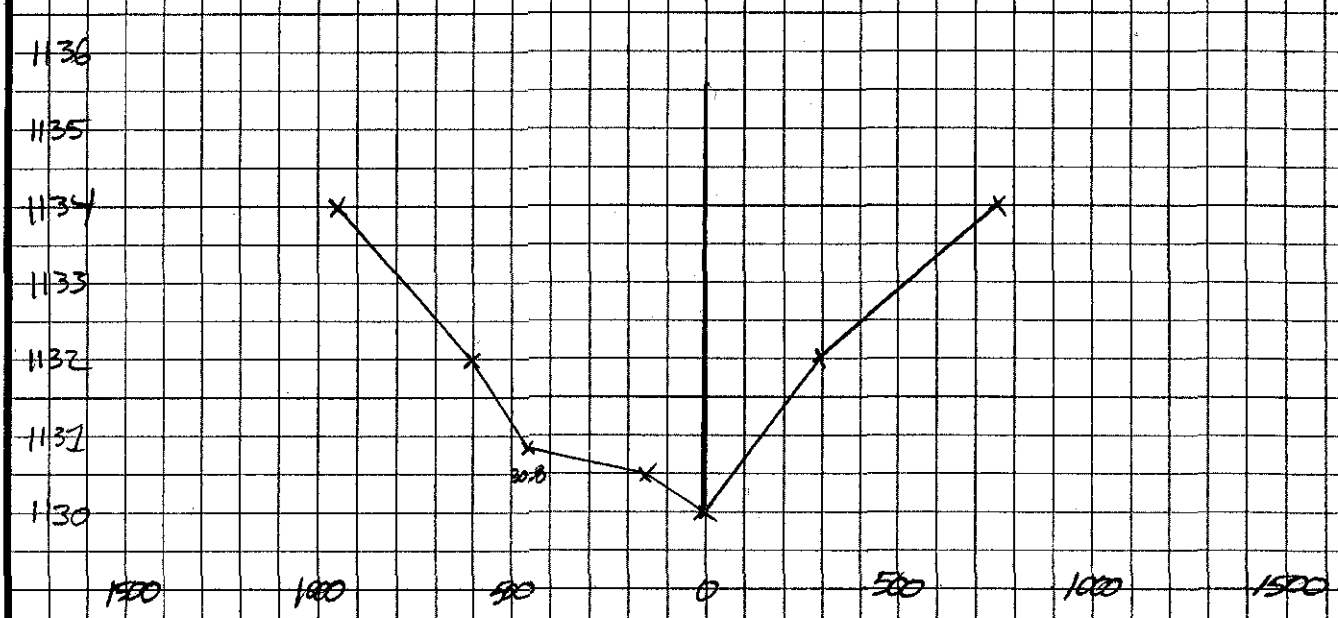
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-4-91

DIVERSION TABLES

SUBBASIN 217 BETHANY HOME ROAD AND CITRUS ROAD

CP 217 TO TO CP235 CP 217 TO CP 218



BETHANY HOME ROAD (WEST) REMAINDER S = .016 ½

CITRUS ROAD (NORTH) DIVERSION S = .0267 ½

DT	DI 218				
DI	0	90	884	6576	28127
DQ	0	51	163	1840	10674

Form 209

CP217 TO CP235

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.50	39.3	2.62	0.884	0.11	0.61	15.00	55.00	11325	39

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	150

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.80	720.9	4.74	1.028	0.35	1.15	152.00	230.00	11308	721

Enter Depth of Flow, or Press the <Esc> Key to End

CP217 TO CP235

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	450

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.20	4015.0	6.56	1.116	0.67	1.87	612.00	570.00	1132	4736

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	600

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
2.00	12717.0	9.08	1.210	1.28	3.28	1400.00	800.00	1134	17453

Enter Depth of Flow, or Press the <Esc> Key to End

CPZ 17 TO CPZ18

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0267
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	50.7	3.38	1.142	0.18	0.68	15.00	55.00	1130.5	51
0.80	163.3	4.54	1.228	0.32	1.12	36.00	85.00	1130.8	163

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0267
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	125

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.20	1677.0	7.55	1.399	0.89	2.09	222.00	245.00	1132	1840

<Enter>: Repeat, <R>eport, <S>creen Graph, <P>rint Graph, or <Esc>: End

CP217 TO CP218

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0267
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
2.00	8834.1	11.04	1.538	1.89	3.89	800.00	500.00	1134	10674

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

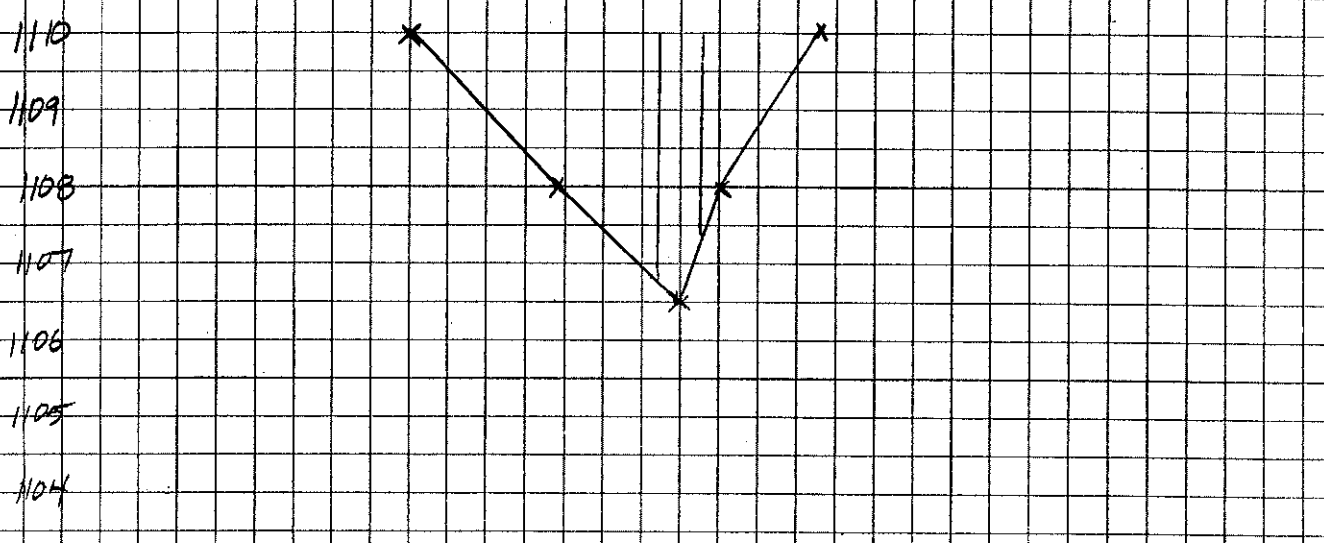
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-4-91

DIVERSION TABLES

SUBBASIN 218 BETHANY HOME ROAD AND COTTON LANE

CP218 TO CP236 CP218 TO CP237 CP218 TO CP219



BETHANY HOME ROAD (WEST) REMAINDER S = .0133 1/1

INTERSECTION DIVERSION S = .0057

COTTON LANE - ATSF RR DIVERSION (NORTH) S = .005 1/1

DT	DI 237			
DI	0	68	1086	10670
DQ	0	68	664	2533
DT	ZD 219			
DI	0	0	422	8137
DQ	0	0	99	2461

Form 209

CP 218 TO CP236

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	~~ELEV~~	Q.
1.20	323.3	4.14	0.925	0.27	1.47	78.00	125.00	1108	323

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	250

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	~~ELEV.~~	Q.
2.00	5352.5	7.65	1.080	0.91	2.91	700.00	450.00	1110	5676

Enter Depth of Flow, or Press the <Esc> Key to End

CP 218 TO CP237

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.50	68.0	2.47	0.852	0.09	0.59	27.50	105.00	1107	68

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	596.2	5.96	1.051	0.55	1.55	100.00	100.00	1108	664

Enter Depth of Flow, or Press the <Esc> Key to End

CP 218 TO CP 237

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	~~ELEV~~	Q.
2.00	1868.5	9.34	1.164	1.36	3.36	200.00	100.00	1110	2533

Enter Depth of Flow, or Press the <Esc> Key to End

CP28 TO CP 29

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.80	98.8	2.74	0.743	0.12	0.92	36.00	85.00	1108	99

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
2.00	2362.1	5.91	0.901	0.54	2.54	400.00	300.00	1110	2461

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

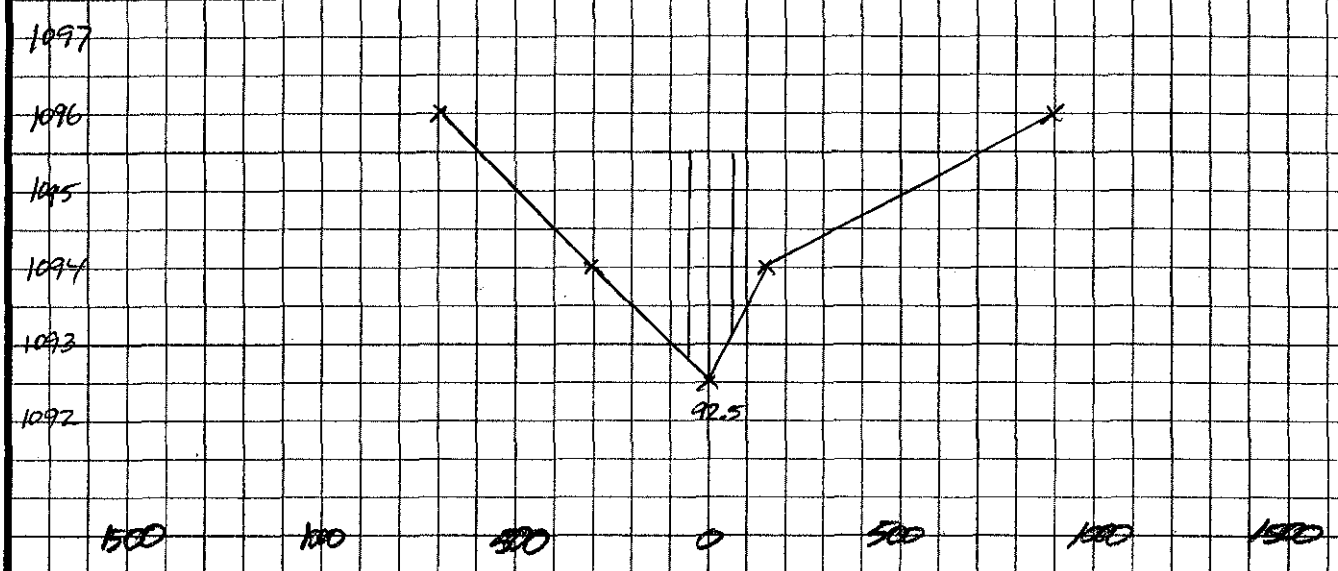
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-4-91

DIVERSION TABLES

SUBBASIN (219) BETHANY HOME ROAD AND ½ MILE EAST OF COTTON LANE

CP 219 TO CP237 CP 219 TO CP238 CP219 TO CP220



BETHANY HOME ROAD (WEST) REMAINDER S= .0057 1/1

INTERSECTION DIVERSION S= .008 1/1

½ MILE EAST OF COTTON LANE BERM - (NORTH) DIVERSION S= .0133 1/1

DT	DI238			
DI	0	70	1410	16774
DQ.	0	68	990	10452
DT	ZP220			
DI	0	2	420	6322
DQ	0	0	174	3073

Form 209

CP219 TO CP237

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0057
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.20	2.3	0.78	0.395	0.01	0.21	3.00	25.00	1093	2

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0057
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	243.5	2.44	0.526	0.09	1.09	100.00	150.00	1094	246

Enter Depth of Flow, or Press the <Esc> Key to End

CP 219 TO CP237

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0057
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	250

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
2.00	3003.4	4.29	0.606	0.29	2.29	700.00	450.00	1096	3249

Enter Depth of Flow, or Press the <Esc> Key to End

CP 219 TO CP 238

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	68.0	2.47	0.852	0.09	0.59	27.50	105.00	1093	68

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	922.1	4.61	0.995	0.33	1.33	200.00	300.00	1094	990
3.00	10384.0	8.65	1.165	1.16	4.16	1200.00	700.00	1096	10452

Enter Depth of Flow, or Press the <Esc> Key to End

CP219 TO CP220

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	173.9	3.16	0.770	0.16	1.16	55.00	105.00	1094	174

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	604.3	4.03	0.820	0.25	1.25	150.00	200.00	1095	778

Enter Depth of Flow, or Press the <Esc> Key to End

CP219 TO CP220

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	450

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	~~FLEX~~	~~Q~~
1.00	2294.7	4.59	0.848	0.33	1.33	500.00	550.00	1096	3073

Enter Depth of Flow, or Press the <Esc> Key to End

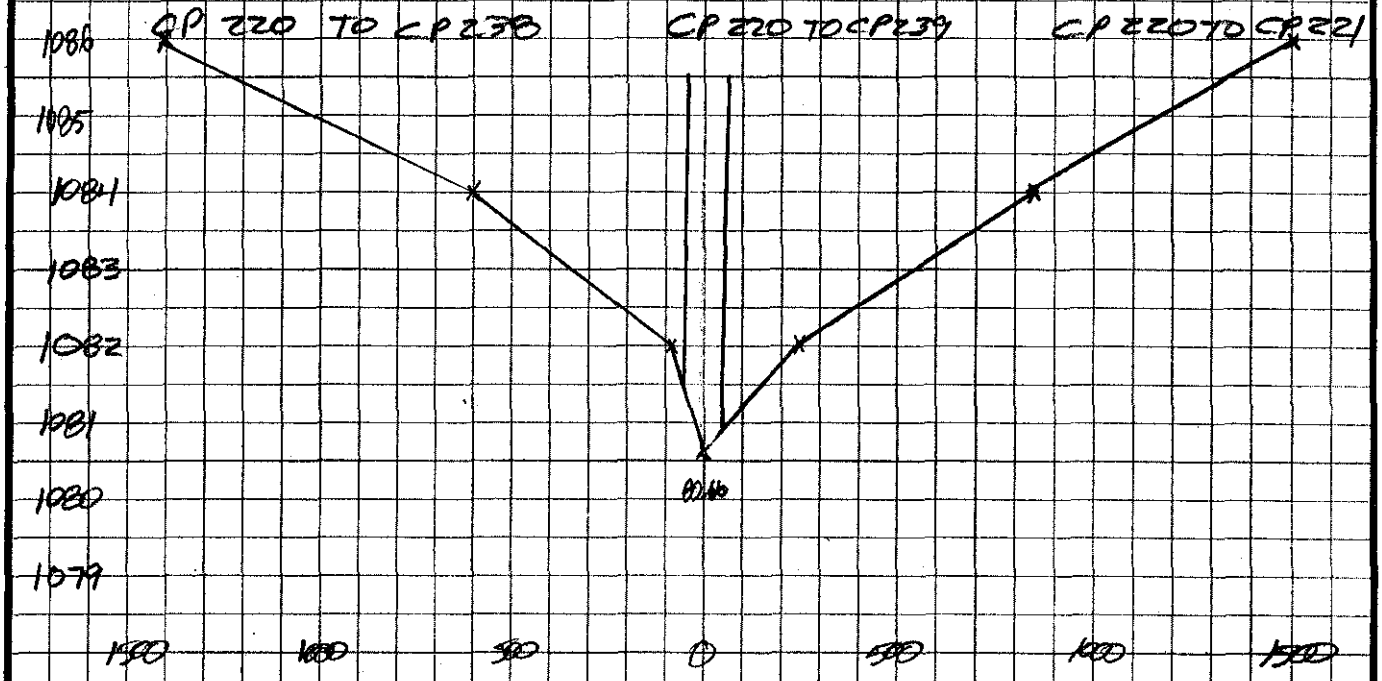
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-4-91

DIVERSION TABLES

SUBBASIN 220 BETHANY HOME ROAD AND SARIVAL AVENUE



DT DI 239

DI	0	735	9080	34764
DQ	0	537	3765	9314

DT 20221

DI	0	198	5315	25450
DQ	0	174	4011	17035

Form 209

CP 220 TO CP 238

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.50	23.8	1.59	0.536	0.04	0.54	15.00	55.00	1082	24

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
2.00	1279.6	4.27	0.686	0.28	2.28	300.00	250.00	1084	1304

Enter Depth of Flow, or Press the <Esc> Key to End

C/220 TO C/238

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	550

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
2.00	7110.8	5.47	0.732	0.46	2.46	1300.00	750.00	1086	8415

Enter Depth of Flow, or Press the <Esc> Key to End

CP 220 TO CP 239

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.80	293.3	4.31	1.184	0.29	1.09	68.00	165.00	1081.5	293

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	243.7	4.87	1.215	0.37	0.87	50.00	100.00	1082	537
2.50	3472.4	13.89	1.548	3.00	5.50	250.00	100.00	1084	3765
4.50	9021.1	20.05	1.665	6.24	10.74	450.00	100.00	1086	9314

Enter Depth of Flow, or Press the <Esc> Key to End

CP220 TO CP221

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	173.9	3.16	0.770	0.16	1.16	55.00	105.00	1082	174

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	200

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
2.00	3836.8	6.39	0.920	0.63	2.63	600.00	400.00	1084	4011

Enter Depth of Flow, or Press the <Esc> Key to End

CP220 TO CP221

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	800

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
2.00	13024.2	7.24	0.950	0.81	2.81	1800.00	1000.00	1086	17035

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-12-90

SUBBASIN ~~224~~ DIVERSION TABLE

~~CP224 TO CP223~~

DIVERT FLOWS OUT OF SUBBASIN 223 TO SUBBASIN 224 AND ROUTE REMAINDER OF 42" PIPE FLOW TO SUBBASIN 225.

VOID

DT DI 224

DI	0	60	400	1000	4000	8000
DQ	0	0	340	940	3940	7940

This sheet was submitted to the County.
See Next sheet.

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHIT TANKS ADMS Prepared by G. AOUAD Date 1/21/92

SUBBASIN 223

DIVERSION TABLE

CP223 TO CP225

Divert through a 42" pipe.

DT DI225

DI	0	60	400	1000	4000	8000
DQ	0	0	340	940	3940	7940

Form 209

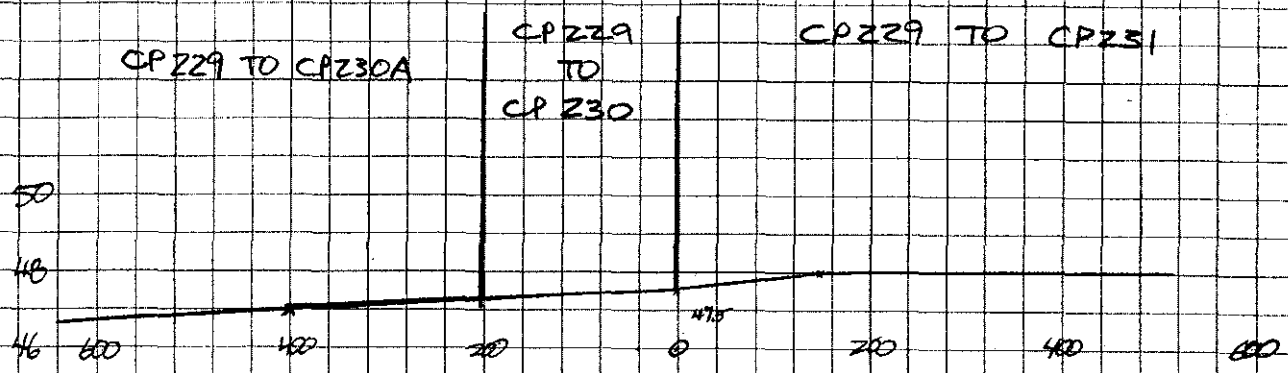
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS ADMS Prepared by JSE Date 12-12-90

SUBBASIN 229 DIVERSION TABLES

INTERSECTION OF AIRLINE CANAL AND EL MIRAGE ROAD



ESTIMATE WIER FLOW OVER AIRLINE CANAL.

$Q = CLH^{3/2}$

DT	ID230					
DI	0	612	1224	2470	3990	4952
DQ	0	89	177	500	919	1414

DT	DI231					
DI	0	523	1047	1970	3071	3538
DQ	0	24	47	133	244	375

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

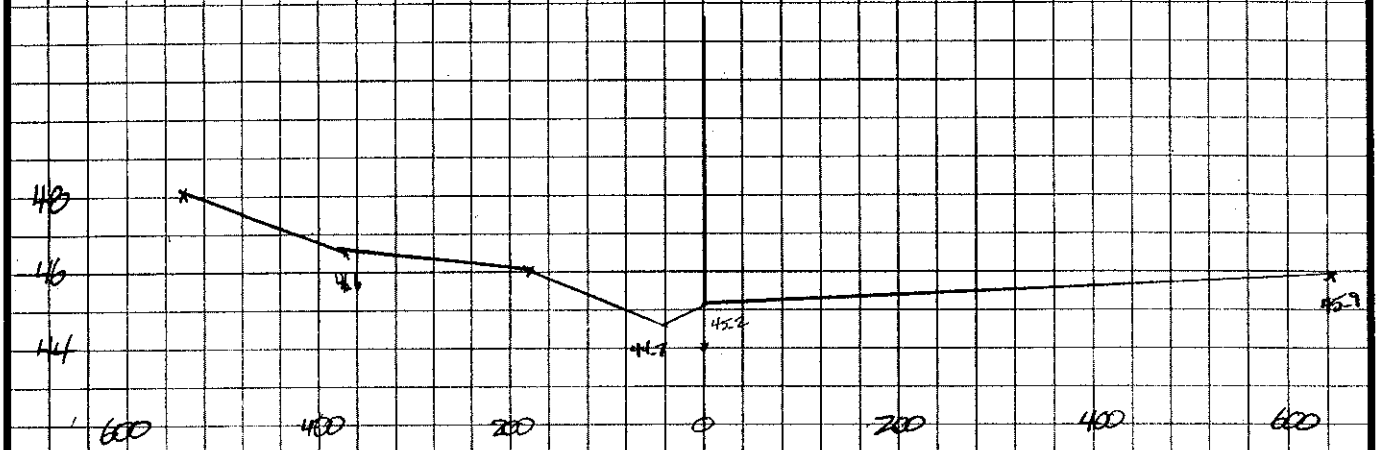
Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 12-12-90

DIVERSION TABLES

SUBBASIN 230A

INTERSECTION OF BETHANY HOME RD AND AIRLINE CANAL

CP 230A TO CP 244A CP 230A TO CP 230



BETHANY HOME RD (WEST)
REMAINDER
S = .00043 ft/ft

AIRLINE CANAL (NORTH)
DIVERSION
S = .025 ft/ft

DT	20230						
DI	0	26	221	743	1717	3247	5429
DQ	0	17	190	653	1575	2869	4799

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.00043
Manning's Roughness Coefficient (n-value)	.04
Channel Side Slope - Left Side (horizontal/vertical)	80
Channel Side Slope - Right Side (horizontal/vertical)	80
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.50	7.1	0.32	0.109	0.00	0.50	22.50	85.00	45.2	7

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.00043
Manning's Roughness Coefficient (n-value)	.04
Channel Side Slope - Left Side (horizontal/vertical)	80
Channel Side Slope - Right Side (horizontal/vertical)	80
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.30	2.0	0.23	0.100	0.00	0.30	8.70	53.00	45.5	9
0.80	23.7	0.43	0.117	0.00	0.80	55.20	133.00	50.0	31
1.30	83.2	0.59	0.127	0.01	1.31	141.70	213.00	50.5	90
1.80	194.8	0.73	0.134	0.01	1.81	268.20	293.00	51.0	202
2.30	370.8	0.85	0.139	0.01	2.31	434.70	373.00	51.5	378
2.80	622.7	0.97	0.144	0.01	2.81	641.20	453.00	52.0	630

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.025
Manning's Roughness Coefficient (n-value)	.025
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.30	17.3	2.88	1.227	0.13	0.43	6.00	35.00	45.5	17
0.80	189.6	5.27	1.426	0.43	1.23	36.00	85.00	50.0	190
1.30	653.3	7.18	1.541	0.80	2.10	91.00	135.00	50.5	653
1.80	1515.1	8.86	1.624	1.22	3.02	171.00	185.00	51.0	1515
2.30	2868.7	10.39	1.690	1.68	3.98	276.00	235.00	51.5	2869
2.80	4799.4	11.82	1.745	2.17	4.97	406.00	285.00	52.0	4799
3.30	7386.5	13.17	1.793	2.69	5.99	561.00	335.00	52.5	7387

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

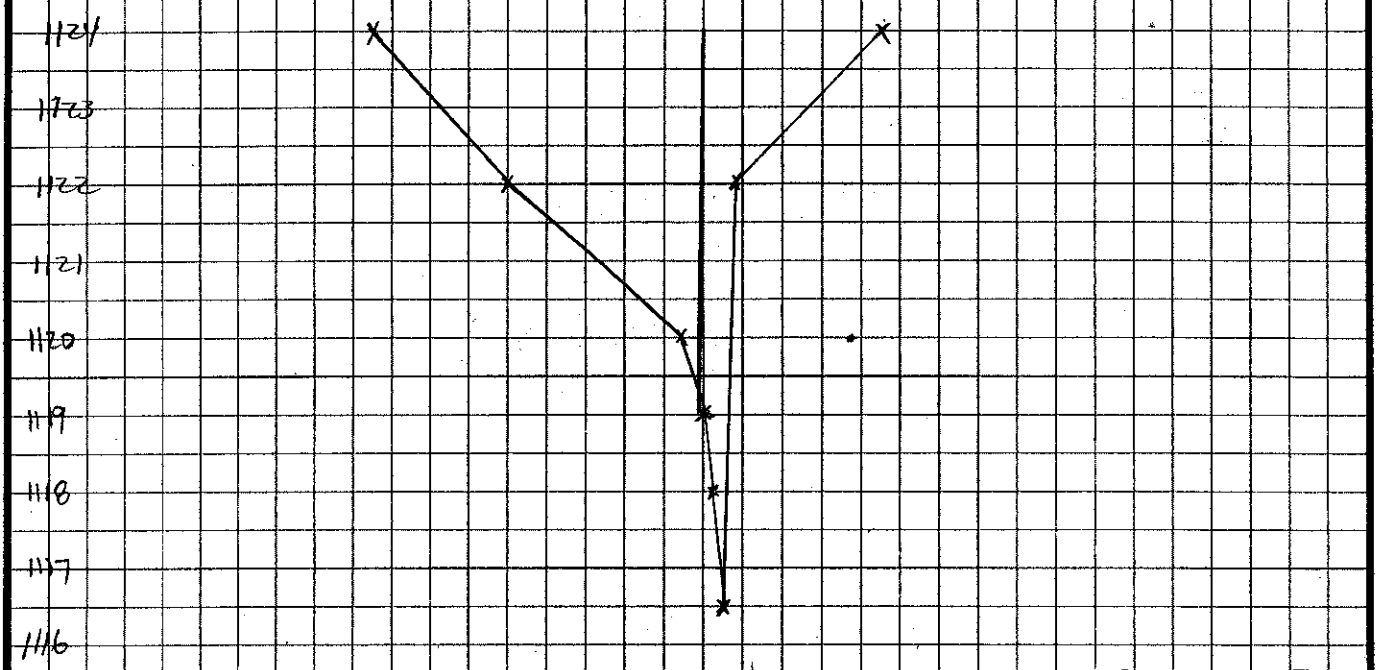
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-4-91

DIVERSION TABLES

SUBBASIN 234 CAMELBACK ROAD AND ½ MILE EAST OF PERRYVILLE ROAD

CP 234 TO CP 248 CP 234 TO CP 235



CAMELBACK ROAD (WEST) DIVERSION S=.0133%

½ MILE EAST OF PERRYVILLE ROAD - BERM REMAINDER S=.0067% (NORTH)

DT 1D248

DI 0 290 677 3521 13393

DQ 0 0 174 1824 10224

Form 209

CP234 TO CP248

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .0133
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 100
Channel Bottom Width (feet) 5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
1.00	173.9	3.16	0.770	0.16	1.16	55.00	105.00	1120	174

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .0133
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 100
Channel Bottom Width (feet) 50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
2.00	1649.9	5.50	0.885	0.47	2.47	300.00	250.00	1122	1824

Enter Depth of Flow, or Press the <Esc> Key to End

CP 234 TO CP 248

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	500

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	CD.
2.00	8400.1	7.00	0.942	0.76	2.76	1200.00	700.00	1124	10224

Enter Depth of Flow, or Press the <Esc> Key to End

CP234 TO CP235

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0067
Manning°s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	25
Channel Side Slope - Right Side (horizontal/vertical)	10
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
2.00	289.9	3.62	0.618	0.20	2.20	80.00	75.00	1119	290

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0067
Manning°s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	10
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	60

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	212.9	3.28	0.599	0.17	1.17	65.00	70.00	1120	503
3.00	1407.7	6.26	0.697	0.61	3.61	225.00	90.00	1122	1697

Enter Depth of Flow, or Press the <Esc> Key to End

CP 234 TO CP 235

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0067
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	80

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
2.00	1472.3	4.09	0.636	0.26	2.26	360.00	280.00	1124	3169

Enter Depth of Flow, or Press the <Esc> Key to End

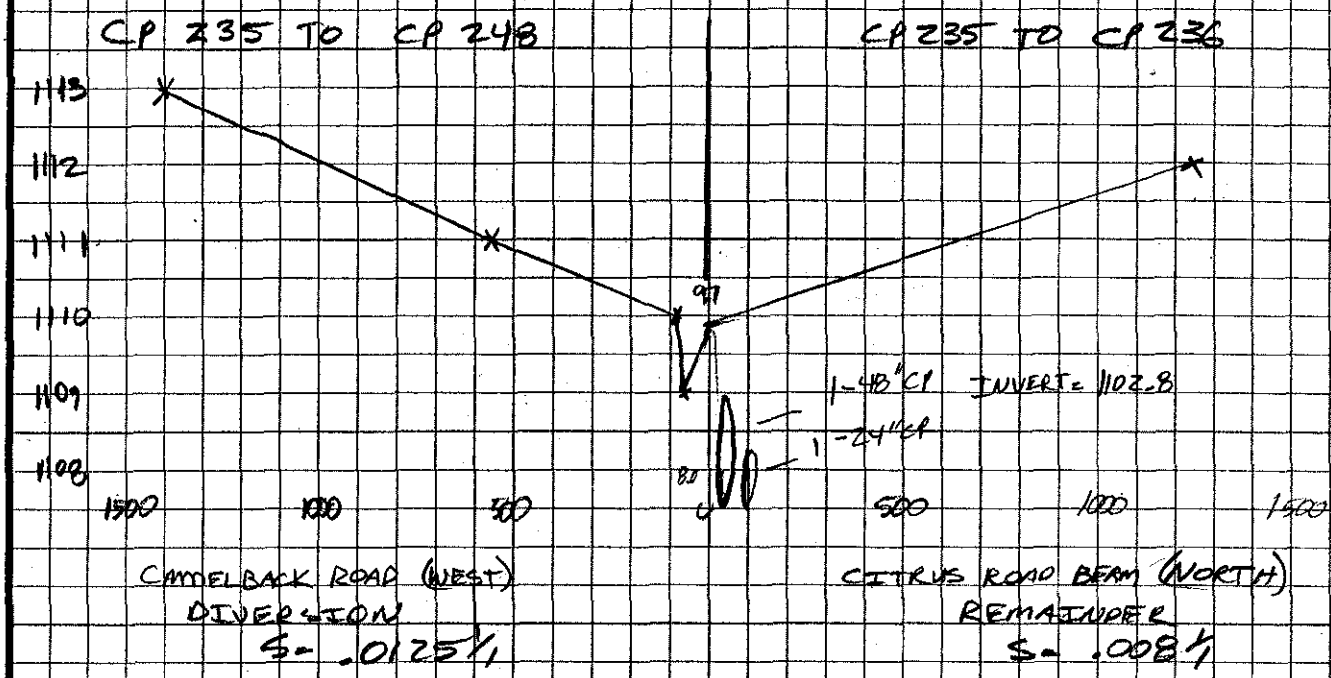
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-4-91

DIVERSION TABLES

SUBBASIN 235 CAMELBACK ROAD AND CITRUS ROAD



DT	ID 248			
DI	0	158	313	4490	9737
DQ	0.0	0	135	2380	5077

Form 209

CP235 TO CP248

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0125
Manning`s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	70
Channel Side Slope - Right Side (horizontal/vertical)	20
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.00	154.7	3.09	0.751	0.15	1.15	50.00	95.00	1110	155

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0125
Manning`s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	450

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
1.00	2224.6	4.45	0.822	0.31	1.31	500.00	550.00	1111	2380

Enter Depth of Flow, or Press the <Esc> Key to End

CP235 TO CP248

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0125
Manning`s Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	550

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	2697.3	4.50	0.825	0.31	1.31	600.00	650.00	1112	5077

Enter Depth of Flow, or Press the <Esc> Key to End

CP 235 TO CP 236

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	15
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.30	1951.9	4.01	0.678	0.25	1.55	487.17	449.50	1111	1952

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	15
Channel Bottom Width (feet)	650

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
1.00	2550.3	3.60	0.661	0.20	1.20	707.50	765.00	1112	4502

Enter Depth of Flow, or Press the <Esc> Key to End

PIPE CULVERT ANALYSIS

COMPUTATION OF CULVERT PERFORMANCE CURVE

Culvert Diameter (feet)	2
FHWA Chart Number (1,2 or 3)	1
Scale Number on Chart (Type of Culvert Entrance)	1
Manning`s Roughness Coefficient (n-value)	.012
Entrance Loss Coefficient of Culvert Opening	0.5
Culvert Length (feet)	60
Culvert Slope (feet per foot)	.008

*** RESULTS ***

Flow Rate (cfs)	Tailwater Depth(ft)	..Headwater (ft).. In.Ctrl.	Out.Ctrl.	Normal Depth(ft)	Critical Depth(ft)	Depth at Outlet(ft)	Outlet Vel.(fps)
33.00	3.40	5.73	6.57	2.00	1.90	2.00	10.50

Enter Flow Rate and Tailwater, or Press the <Esc> Key to End

PIPE CULVERT ANALYSIS

COMPUTATION OF CULVERT PERFORMANCE CURVE

Culvert Diameter (feet)	4
FHWA Chart Number (1,2 or 3)	1
Scale Number on Chart (Type of Culvert Entrance)	1
Manning`s Roughness Coefficient (n-value)	.012
Entrance Loss Coefficient of Culvert Opening	0.5
Culvert Length (feet)	60
Culvert Slope (feet per foot)	.008

*** RESULTS ***

Flow Rate (cfs)	Tailwater Depth(ft)	..Headwater (ft).. In.Ctrl.	Out.Ctrl.	Normal Depth(ft)	Critical Depth(ft)	Depth at Outlet(ft)	Outlet Vel.(fps)
125.00	3.40	6.62	5.89	2.96	3.36	2.96	12.52

Enter Flow Rate and Tailwater, or Press the <Esc> Key to End

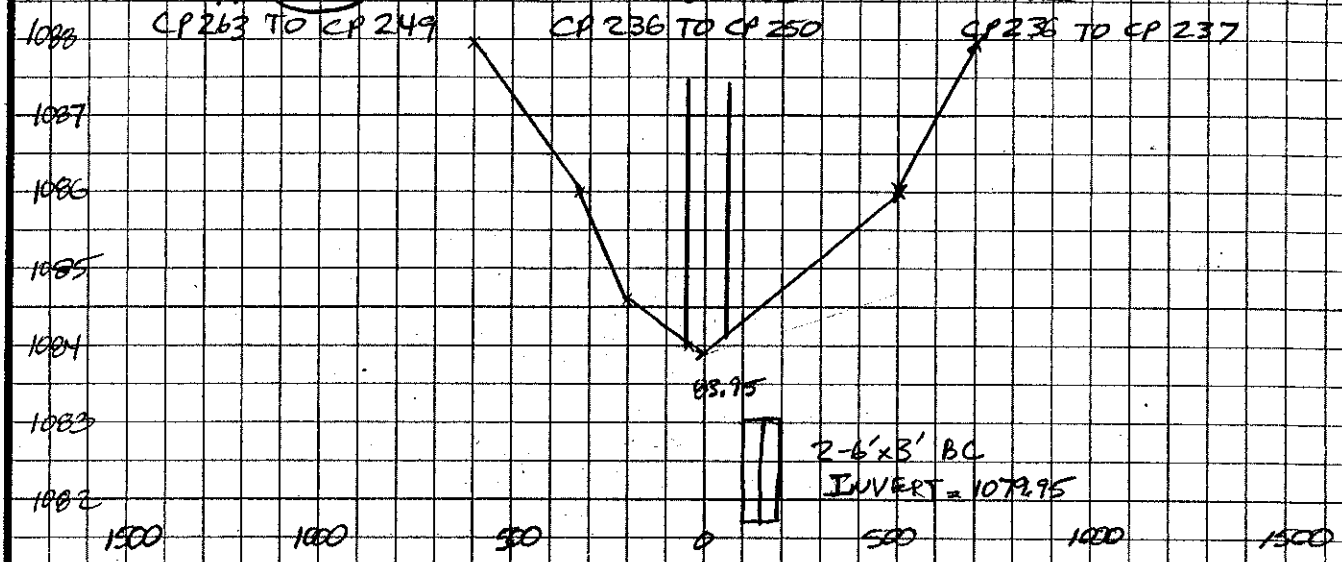
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-4-91

DIVERSION TABLES

SUBBASIN 236 CAMELBACK ROAD AND COTTON LANE



CAMELBACK ROAD (WEST) DIVERSION	INTERSECTION DIVERSION	COTTON LANE - RR (NORTH) REMAINDER
S = .02%	S = .02667%	S = .02667%

DT DI 249

DI	0	236	411	6597	30351
DQ	0	0	38	2223	8777

DT ID 250

DI	0	236	373	4374	21574
DQ	0	0	124	2257	8636

Form 209

CP 236 TO CP 249

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .02
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 100
Channel Bottom Width (feet) 5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	37.6	2.51	0.847	0.10	0.60	15.00	55.00	1084.5	38

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .02
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 100
Channel Bottom Width (feet) 150

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.50	2184.7	6.47	1.076	0.65	2.15	337.50	300.00	1086	2223

Enter Depth of Flow, or Press the <Esc> Key to End

CP236 TO CP249

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.02
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
2.00	6553.5	8.19	1.141	1.04	3.04	800.00	500.00	1088	6777

Enter Depth of Flow, or Press the <Esc> Key to End

CP 236 TO CP 250

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0267
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.50	124.2	4.52	1.556	0.32	0.82	27.50	105.00	1084.5	124

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0267
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
1.50	2127.1	14.18	2.040	3.12	4.62	150.00	100.00	1086	2251
3.50	8512.2	24.32	2.291	9.18	12.68	350.00	100.00	1088	8636

Enter Depth of Flow, or Press the <Esc> Key to End

C1236 TO CP 237

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0267
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.30	12.8	2.13	0.906	0.07	0.37	6.00	35.00	1084.5	13

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0267
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.50	1873.8	7.14	1.228	0.79	2.29	262.50	250.00	1086	1887

Enter Depth of Flow, or Press the <Esc> Key to End

CP 236 TO CP 237

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0267
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	450

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	~~ELEV~~	CR.
2.00	10815.0	9.83	1.332	1.50	3.50	1100.00	650.00	1088	12702

Enter Depth of Flow, or Press the <Esc> Key to End

BOX CULVERT ANALYSIS

COMPUTATION OF PERFORMANCE CURVE

Culvert Span (Width of Opening) (feet)	6
Culvert Rise (Height of Opening) (feet)	3
FHWA Chart Number (8,9,10,11,12 or 13)	8
Scale Number on Chart (Type of Culvert Entrance)	1
Manning's Roughness Coefficient (n-value)	0.012
Entrance Loss Coefficient of Culvert Opening	0.5
Culvert Length (feet)	60
Culvert Slope (feet per foot)	.008

Flow Rate (cfs)	Tailwater Depth(ft)	..Headwater (ft).. In.Ctrl.	Out.Ctrl.	Normal Depth(ft)	Critical Depth(ft)	Depth at Outlet(ft)	Outlet Vel.(fps)
118.00	2.29	4.03	3.33	1.69	2.29	1.69	11.65

Enter Flow Rate and Tailwater, or Press the <Esc> Key to End

The WLB Group Inc. WLB

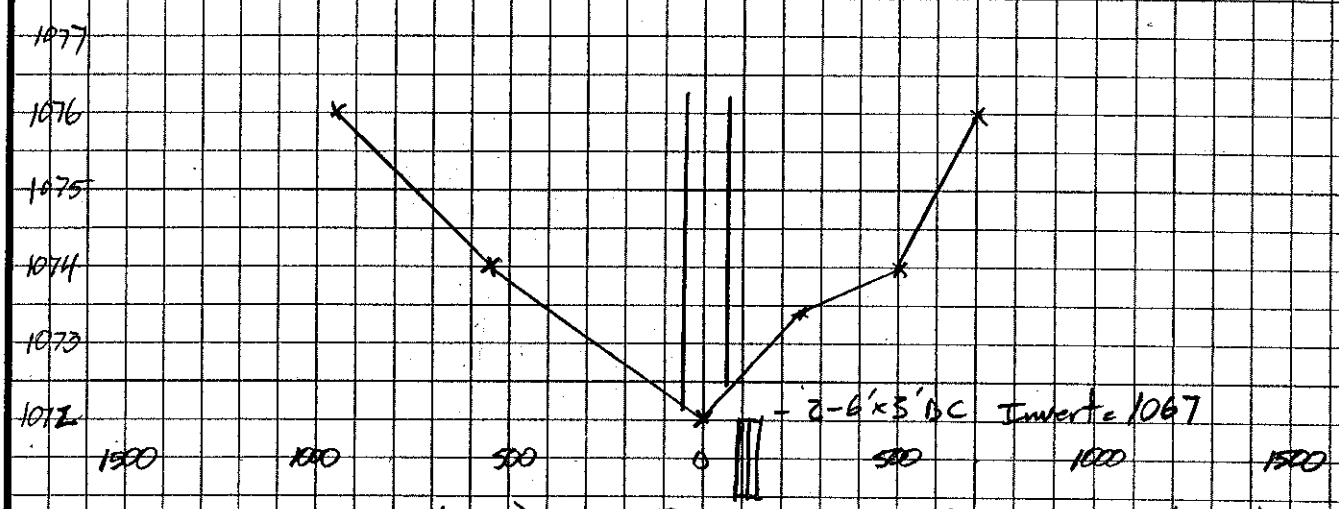
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-4-91

DIVERSION TABLES

SUBBASIN (237) CAMELBACK ROAD AND ½ MILE EAST OF COTTON LANE

CP 237 TO CP250 CP237 TO CP250A CP237 TO CP238



CAMELBACK ROAD (WEST) DIVERSION S = .02 %

INTERSECTION DIVERSION S = .005 %

FARM ROAD (NORTH) REMAINDER S = .0183 %

DT 2D 250

DIO	292	346	629	3340	24038
DQO	0	0	103	1577	11878

DT 1D250A

DIO	292	346	526	1763	12160
DQO	0	54	203	974	3738

Form 209

CP 237 TO CP250

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .02
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 100
Channel Bottom Width (feet) 5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.75	103.0	3.23	0.902	0.16	0.91	31.88	80.00	1073	103

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .02
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 100
Channel Bottom Width (feet) 225

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	1474.1	5.36	1.027	0.45	1.45	275.00	325.00	1074	1577

Enter Depth of Flow, or Press the <Esc> Key to End

CP237 TO CP 250

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.02
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	500

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
2.00	10300.8	8.58	1.155	1.14	3.14	1200.00	700.00	1076	11878

Enter Depth of Flow, or Press the <Esc> Key to End

CP 237 TO CP 250A

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.50	53.8	1.96	0.673	0.06	0.56	27.50	105.00	1072.5	54

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.50	149.4	2.99	0.745	0.14	0.64	50.00	100.00	1073	203
1.50	920.5	6.14	0.883	0.58	2.08	150.00	100.00	1074	974
3.50	3683.6	10.52	0.991	1.72	5.22	350.00	100.00	1076	3738

Enter Depth of Flow, or Press the <Esc> Key to End

CP237 TO CP238

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	30.7	2.05	0.691	0.07	0.57	15.00	55.00	1073	31

Enter Depth of Flow, or Press the <Esc> Key to End

CP 237 TO CP 238

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	173.9	3.16	0.770	0.16	1.16	55.00	105.00	1073.5	174

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	200

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.50	323.0	2.87	0.754	0.13	0.63	112.50	250.00	1074	497

Enter Depth of Flow, or Press the <Esc> Key to End

CP 237 TO CP 238

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0133
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	450

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
2.00	7633.0	6.94	0.940	0.75	2.75	1100.00	650.00	1076	8130

Enter Depth of Flow, or Press the <Esc> Key to End

BOX CULVERT ANALYSIS

COMPUTATION OF PERFORMANCE CURVE

Culvert Span (Width of Opening) (feet)	6
Culvert Rise (Height of Opening) (feet)	3
FHWA Chart Number (8,9,10,11,12 or 13)	8
Scale Number on Chart (Type of Culvert Entrance)	1
Manning`s Roughness Coefficient (n-value)	0.012
Entrance Loss Coefficient of Culvert Opening	0.5
Culvert Length (feet)	60
Culvert Slope (feet per foot)	.008

Flow Rate (cfs)	Tailwater Depth(ft)	..Headwater (ft).. In.Ctrl.	Out.Ctrl.	Normal Depth(ft)	Critical Depth(ft)	Depth at Outlet(ft)	Outlet Vel.(fps)
146.00	3.00	4.96	4.31	1.96	2.64	1.96	12.41

Enter Flow Rate and Tailwater, or Press the <Esc> Key to End

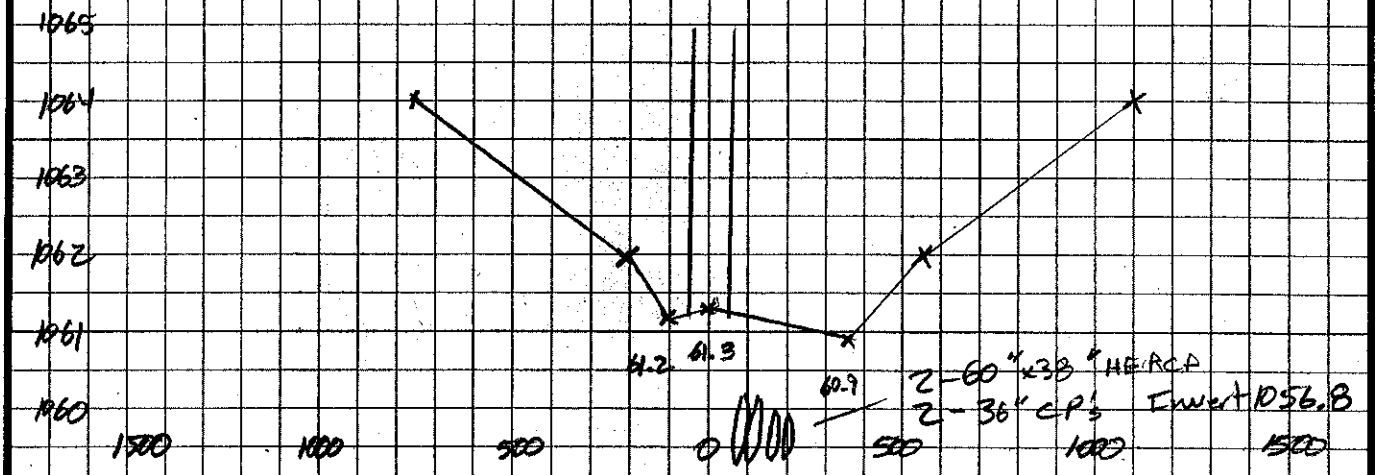
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-4-91

DIVERSION TABLES

SUBBASIN 238 CAMELBACK ROAD AND SARIVAL AVENUE



DT 2D250A

DI	0	180	568	2711	8584	18252
DQ	0	0	0	184	837	2617

DT 1D251

DI	0	180	568	2527	7747	15635
DQ	0	0	0	522	2262	4829

Form 209

CP 238 TO CP 250A

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.80	183.6	2.55	0.604	0.10	0.90	72.00	130.00	1062	184

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	150

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	652.8	3.26	0.643	0.17	1.17	200.00	250.00	1063	837

Enter Depth of Flow, or Press the <Esc> Key to End

CP238 TO CP 250A

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	450

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.00	1779.7	3.56	0.658	0.20	1.20	500.00	550.00	1064	2617

Enter Depth of Flow, or Press the <Esc> Key to End

CP238 TO CP251

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.02
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.70	522.3	7.46	1.572	0.86	1.56	70.00	100.00	1062	522
1.70	2262.1	13.31	1.799	2.75	4.45	170.00	100.00	1063	2262
2.70	4828.6	17.88	1.918	4.97	7.67	270.00	100.00	1064	4829

Enter Depth of Flow, or Press the <Esc> Key to End

CP 238 TO CP239

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.025
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	250

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.40	387.9	3.34	0.994	0.17	0.57	116.00	330.00	1061.3	388

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.025
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	375

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.70	1436.7	5.01	1.098	0.39	1.09	287.00	445.00	1062	1825

Enter Depth of Flow, or Press the <Esc> Key to End

CP 238 TO CP 239

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.025
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	500

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	3480.2	6.33	1.165	0.62	1.62	550.00	600.00	1063	5305

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.025
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	775

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
1.00	5321.2	6.45	1.171	0.65	1.65	825.00	875.00	1064	10626

Enter Depth of Flow, or Press the <Esc> Key to End

PIPE CULVERT ANALYSIS

COMPUTATION OF CULVERT PERFORMANCE CURVE

Culvert Diameter (feet)	3
FHWA Chart Number (1,2 or 3)	1
Scale Number on Chart (Type of Culvert Entrance)	1
Manning's Roughness Coefficient (n-value)	.012
Entrance Loss Coefficient of Culvert Opening	0.5
Culvert Length (feet)	60
Culvert Slope (feet per foot)	.005

*** RESULTS ***

Flow Rate (cfs)	Tailwater Depth(ft)	..Headwater (ft).. In.Ctrl.	Out.Ctrl.	Normal Depth(ft)	Critical Depth(ft)	Depth at Outlet(ft)	Outlet Vel.(fps)
40.00	3.50	3.30	4.13	2.00	2.06	3.00	5.66

Enter Flow Rate and Tailwater, or Press the <Esc> Key to End

CURRENT DATE: 02-12-1991
CURRENT TIME: 13:58:47

FILE DATE: 01-23-1991
FILE NAME: WT2

FHWA CULVERT ANALYSIS
HY-8, VERSION 3.2

CULV	SITE DATA: INLET ELEV. (FT)	SITE DATA: OUTLET ELEV. (FT)	SITE DATA: CULVERT LENGTH (FT)	CULVERT SHAPE, MATERIAL, INLET: BARRELS SHAPE MATERIAL	SPAN (FT)	RISE (FT)	MANNING n	INLET TYPE
1	1056.80	1056.60	60.00	2 RCPE	5.00	3.17	.012	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (CFS) FILE: WT2 DATE: 01-23-1991

ELEV (FT)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
1056.80	0	0	0	0	0	0	0	0	1
1059.47	100	100	0	0	0	0	0	0	1
1061.39	400	203	0	0	0	0	0	195	5
1061.57	600	173	0	0	0	0	0	424	6
1061.71	800	138	0	0	0	0	0	657	5
1061.83	1000	106	0	0	0	0	0	889	5
1062.02	1200	101	0	0	0	0	0	1105	8
1062.41	1400	101	0	0	0	0	0	1298	7
1062.81	1600	101	0	0	0	0	0	1499	8
1063.18	1800	102	0	0	0	0	0	1711	8
1063.53	2000	102	0	0	0	0	0	1910	8
1060.90	181	181	0	0	0	0	0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: WT2 DATE: 01-23-1991

HEAD ELEV(FT)	HEAD ERROR(FT)	TOTAL FLOW(CFS)	FLOW ERROR(CFS)	% FLOW ERROR
1056.80	0.00	0	0	0.00
1059.47	0.00	100	0	0.00
1061.39	-0.00	400	3	0.68
1061.57	-0.00	600	3	0.47
1061.71	-0.01	800	5	0.66
1061.83	-0.00	1000	5	0.50
1062.02	0.00	1200	-6	-0.49
1062.41	0.00	1400	1	0.09
1062.81	0.00	1600	-1	-0.04
1063.18	0.00	1800	-12	-0.69
1063.53	-0.00	2000	-12	-0.60

<1> TOLERANCE (FT) = 0.010 <2> TOLERANCE (%) = 1.000

CURRENT DATE: 02-12-1991
CURRENT TIME: 13:58:47

FILE DATE: 01-23-1991
FILE NAME: WT2

CULVERT # 1

PERFORMANCE CURVE FOR 2 BARREL(S)

Q (cfs)	HWE (ft)	TWE (ft)	ICH (ft)	OCH (ft)	FLOW TYPE	CCE (ft)	FCE (ft)	TCE (ft)	VO (fps)
0	1056.80	1056.60	0.00	-0.20	0-NF	0.00	1056.80	0.00	0.00
100	1059.47	1057.97	2.59	2.67	4-FF	0.00	0.00	0.00	6.90
203	1061.38	1059.58	4.58	4.48	4-FF	0.00	0.00	0.00	8.19
173	1061.56	1060.32	3.93	4.76	4-FF	0.00	0.00	0.00	6.74
138	1061.72	1060.93	3.25	4.92	4-FF	0.00	0.00	0.00	5.38
106	1061.93	1061.46	2.69	5.13	4-FF	0.00	0.00	0.00	4.12
101	1062.36	1061.94	2.60	5.56	4-FF	0.00	0.00	0.00	3.92
101	1062.80	1062.38	2.61	6.00	4-FF	0.00	0.00	0.00	3.92
101	1063.21	1062.78	2.61	6.41	4-FF	0.00	0.00	0.00	3.94
102	1063.59	1063.16	2.62	6.79	4-FF	0.00	0.00	0.00	3.96
102	1063.95	1063.51	2.63	7.15	4-FF	0.00	0.00	0.00	3.98

El. inlet face invert 1056.80 ft El. outlet invert 1056.60 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION (FT)	0.00
INLET ELEVATION (FT)	1056.80
OUTLET STATION (FT)	60.00
OUTLET ELEVATION (FT)	1056.60
NUMBER OF BARRELS	2.00
SLOPE (V-FT/H-FT)	0.0033
CULVERT LENGTH ALONG SLOPE (FT)	60.00

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	ELLIPTICAL
BARREL SPAN	60.00 FT
BARREL RISE	38.00 FT
BARREL MATERIAL	CONCRETE
BARREL MANNING'S N	0.012
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	SQ. EDGE WITH HEADWALL
INLET DEPRESSION	NONE

CURRENT DATE: 02-12-1991
CURRENT TIME: 13:58:47

FILE DATE: 01-23-1991
FILE NAME: WT2

TAILWATER

******* REGULAR CHANNEL CROSS SECTION **********

BOTTOM WIDTH (FT)	15.00
SIDE SLOPE H/V (X:1)	2.0
CHANNEL SLOPE V/H (FT/FT)	0.006
MANNING'S N (.01-0.1)	0.030
CHANNEL INVERT ELEVATION (FT)	1056.60
CULVERT NO.1 OUTLET INVERT ELEVATION	1056.60 FT

******* UNIFORM FLOW RATING CURVE FOR DOWNSTREAM CHANNEL

FLOW (CFS)	W.S.E. (FT)	FROUDE NUMBER	VEL. (FPS)	SHEAR (PSF)
0.00	1056.60	0.000	0.00	0.00
100.00	1057.97	0.623	4.13	0.49
400.00	1059.58	0.653	6.40	1.08
600.00	1060.32	0.658	7.20	1.34
800.00	1060.93	0.662	7.81	1.57
1000.00	1061.46	0.665	8.32	1.76
1200.00	1061.94	0.667	8.74	1.93
1400.00	1062.38	0.669	9.12	2.09
1600.00	1062.78	0.670	9.45	2.24
1800.00	1063.16	0.671	9.76	2.37
2000.00	1063.51	0.673	10.04	2.50

ROADWAY OVERTOPPING DATA

WEIR COEFFICIENT	2.60
EMBANKMENT TOP WIDTH (FT)	40.00

***** USER DEFINED ROADWAY PROFILE

CROSS-SECTION COORD. NO.	X (FT)	Y (FT)
1	0.00	1064.00
2	550.00	1062.00
3	650.00	1061.20
4	750.00	1061.30
5	1100.00	1060.90
6	1300.00	1062.00
7	1850.00	1064.00

The WLB Group Inc. WLB

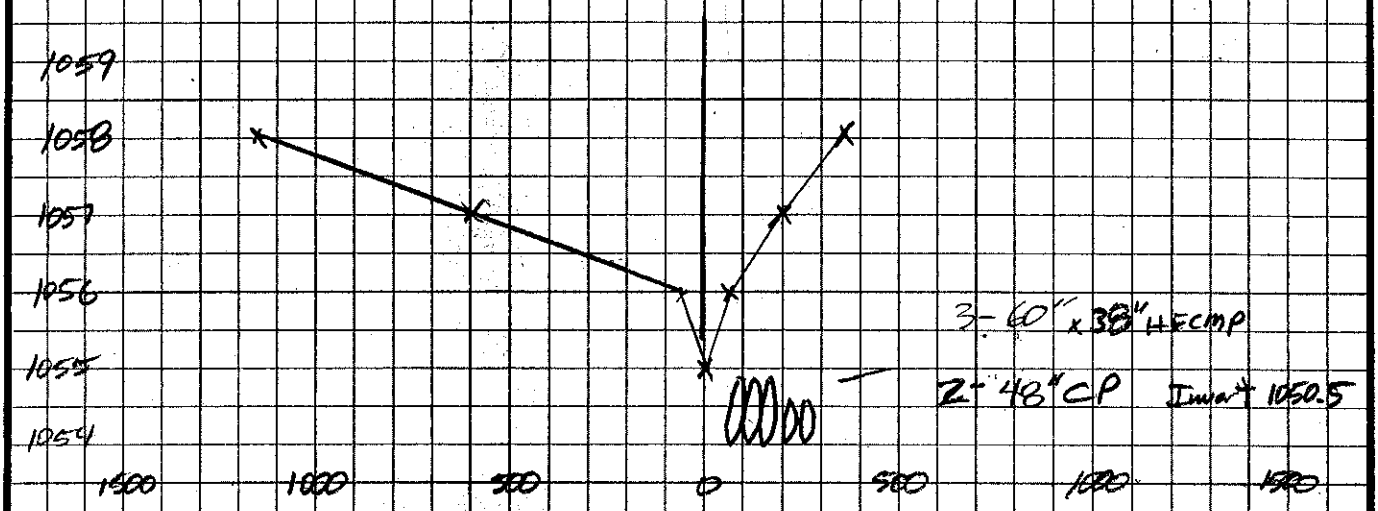
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-4-91

DIVERSION TABLES

SUBBASIN 259 CAMELBACK ROAD AND ½ MILE EAST OF SARIVAL AVE.

CP 239 TO CP 251 CP 239 TO CP 240



CAMELBACK ROAD (WEST) DIVERSION S = S = .0067 ft/ft

½ MILE EAST OF SARIVAL AVE (NORTH) REMAINDER S = .0009 ft/ft

DT 2D251

DI =	283	389	786	3215
DQ =	0	69	333	2481

Form 209

CP 239 TO CP 251

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0067
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	50
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.00	68.8	2.29	0.547	0.08	1.08	30.00	55.00	1056	69

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0067
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	264.0	2.64	0.570	0.11	1.11	100.00	150.00	1057	333

Enter Depth of Flow, or Press the <Esc> Key to End

CP 239 TO CP 251

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0067
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	600

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.00	2148.0	3.30	0.604	0.17	1.17	650.00	700.00	1058	2481

Enter Depth of Flow, or Press the <Esc> Key to End

CP 239 TO CP 240

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0009
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	80
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.00	37.2	0.83	0.200	0.01	1.01	45.00	85.00	1056	37

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0009
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	80

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.00	132.8	1.02	0.212	0.02	1.02	130.00	180.00	1057	170

Enter Depth of Flow, or Press the <Esc> Key to End

CP 239 TO CP 240

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0009
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	200

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
1.00	281.4	1.13	0.217	0.02	1.02	250.00	300.00	1058	451

Enter Depth of Flow, or Press the <Esc> Key to End

PIPE CULVERT ANALYSIS

COMPUTATION OF CULVERT PERFORMANCE CURVE

Culvert Diameter (feet)	4
FHWA Chart Number (1,2 or 3)	1
Scale Number on Chart (Type of Culvert Entrance)	1
Manning's Roughness Coefficient (n-value)	.012
Entrance Loss Coefficient of Culvert Opening	0.5
Culvert Length (feet)	60
Culvert Slope (feet per foot)	.005

*** RESULTS ***

Flow Rate (cfs)	Tailwater Depth(ft)	..Headwater (ft).. In.Ctrl.	Out.Ctrl.	Normal Depth(ft)	Critical Depth(ft)	Depth at Outlet(ft)	Outlet Vel.(fps)
70.00	4.00	3.92	4.54	2.32	2.53	4.00	5.57

Enter Flow Rate and Tailwater, or Press the <Esc> Key to End

CURRENT DATE: 02-12-1991
CURRENT TIME: 13:48:30

FILE DATE: 01-23-1991
FILE NAME: WT2

FHWA CULVERT ANALYSIS
HY-8, VERSION 3.2

CULV	SITE DATA			CULVERT SHAPE, MATERIAL, INLET				
	INLET ELEV. (FT)	OUTLET ELEV. (FT)	CULVERT LENGTH (FT)	BARRELS SHAPE MATERIAL	SPAN (FT)	RISE (FT)	MANNING n	INLET TYPE
1	1050.50	1050.30	60.00	3 RCPE	5.00	3.17	.012	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (CFS) FILE: WT2 DATE: 01-23-1991

ELEV (FT)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
1050.50	0	0	0	0	0	0	0	0	1
1052.77	100	100	0	0	0	0	0	0	1
1055.68	400	339	0	0	0	0	0	59	5
1056.19	600	344	0	0	0	0	0	253	7
1056.45	800	315	0	0	0	0	0	481	7
1056.61	1000	282	0	0	0	0	0	712	6
1056.75	1200	246	0	0	0	0	0	949	6
1056.85	1400	206	0	0	0	0	0	1177	15
1056.87	1600	400	0	0	0	0	0	1214	8
1056.98	1800	400	0	0	0	0	0	1407	4
1057.25	2000	400	0	0	0	0	0	1612	6
1055.00	299	299	0	0	0	0	0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: WT2 DATE: 01-23-1991

HEAD ELEV(FT)	HEAD ERROR(FT)	TOTAL FLOW(CFS)	FLOW ERROR(CFS)	% FLOW ERROR
1050.50	0.00	0	0	0.00
1052.77	0.00	100	0	0.00
1055.68	-0.01	400	2	0.47
1056.19	-0.01	600	3	0.45
1056.45	-0.00	800	4	0.55
1056.61	-0.00	1000	7	0.68
1056.75	-0.00	1200	5	0.44
1056.85	0.00	1400	16	1.17
1056.87	0.00	1600	-14	-0.87
1056.98	0.00	1800	-7	-0.40
1057.25	0.00	2000	-12	-0.58

<1> TOLERANCE (FT) = 0.010 <2> TOLERANCE (%) = 1.000

CURRENT DATE: 02-12-1991
CURRENT TIME: 13:48:30

FILE DATE: 01-23-1991
FILE NAME: WT2

CULVERT # 1

PERFORMANCE CURVE FOR 3 BARREL(S)

Q (cfs)	HWE (ft)	TWE (ft)	ICH (ft)	OCH (ft)	FLOW TYPE	CCE (ft)	FCE (ft)	TCE (ft)	VO (fps)
0	1050.50	1050.30	0.00	-0.20	0-NF	0.00	1050.50	0.00	0.00
100	1052.77	1051.67	2.00	2.27	4-FF	0.00	0.00	0.00	6.03
339	1055.67	1053.28	5.17	4.90	4-FF	0.00	0.00	0.00	9.14
344	1056.20	1054.02	5.26	5.70	4-FF	0.00	0.00	0.00	8.93
315	1056.45	1054.63	4.75	5.95	4-FF	0.00	0.00	0.00	8.16
282	1056.62	1055.16	4.24	6.12	4-FF	0.00	0.00	0.00	7.30
246	1056.76	1055.64	3.74	6.26	4-FF	0.00	0.00	0.00	6.38
206	1056.86	1056.08	3.24	6.36	4-FF	0.00	0.00	0.00	5.35
400	1059.43	1056.48	6.35	8.93	4-FF	0.00	0.00	0.00	10.38
400	1059.80	1056.86	6.35	9.30	4-FF	0.00	0.00	0.00	10.38
400	1060.16	1057.21	6.35	9.66	4-FF	0.00	0.00	0.00	10.38

El. inlet face invert 1050.50 ft El. outlet invert 1050.30 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION (FT)	0.00
INLET ELEVATION (FT)	1050.50
OUTLET STATION (FT)	60.00
OUTLET ELEVATION (FT)	1050.30
NUMBER OF BARRELS	3.00
SLOPE (V-FT/H-FT)	0.0033
CULVERT LENGTH ALONG SLOPE (FT)	60.00

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	ELLIPTICAL
BARREL SPAN	60.00 FT
BARREL RISE	38.00 FT
BARREL MATERIAL	CONCRETE
BARREL MANNING'S N	0.012
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	SQ. EDGE WITH HEADWALL
INLET DEPRESSION	NONE

CURRENT DATE: 02-12-1991 FILE DATE: 01-23-1991
CURRENT TIME: 13:48:30 FILE NAME: WT2

TAILWATER

******* REGULAR CHANNEL CROSS SECTION **********

BOTTOM WIDTH (FT)	15.00
SIDE SLOPE H/V (X:1)	2.0
CHANNEL SLOPE V/H (FT/FT)	0.006
MANNING'S N (.01-0.1)	0.030
CHANNEL INVERT ELEVATION (FT)	1050.30
CULVERT NO.1 OUTLET INVERT ELEVATION	1050.30 FT

******* UNIFORM FLOW RATING CURVE FOR DOWNSTREAM CHANNEL

FLOW (CFS)	W.S.E. (FT)	FROUDE NUMBER	VEL. (FPS)	SHEAR (PSF)
0.00	1050.30	0.000	0.00	0.00
100.00	1051.67	0.623	4.13	0.49
400.00	1053.28	0.653	6.40	1.08
600.00	1054.02	0.658	7.20	1.34
800.00	1054.63	0.662	7.81	1.57
1000.00	1055.16	0.665	8.32	1.76
1200.00	1055.64	0.667	8.74	1.93
1400.00	1056.08	0.669	9.12	2.09
1600.00	1056.48	0.670	9.45	2.24
1800.00	1056.86	0.671	9.76	2.37
2000.00	1057.21	0.673	10.04	2.50

ROADWAY OVERTOPPING DATA

ROADWAY SURFACE	PAVED
EMBANKMENT TOP WIDTH (FT)	40.00

***** USER DEFINED ROADWAY PROFILE

CROSS-SECTION COORD. NO.	X (FT)	Y (FT)
1	0.00	1058.00
2	550.00	1057.00
3	1100.00	1056.00
4	1150.00	1055.00
5	1230.00	1056.00
6	1350.00	1057.00
7	1500.00	1058.00

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

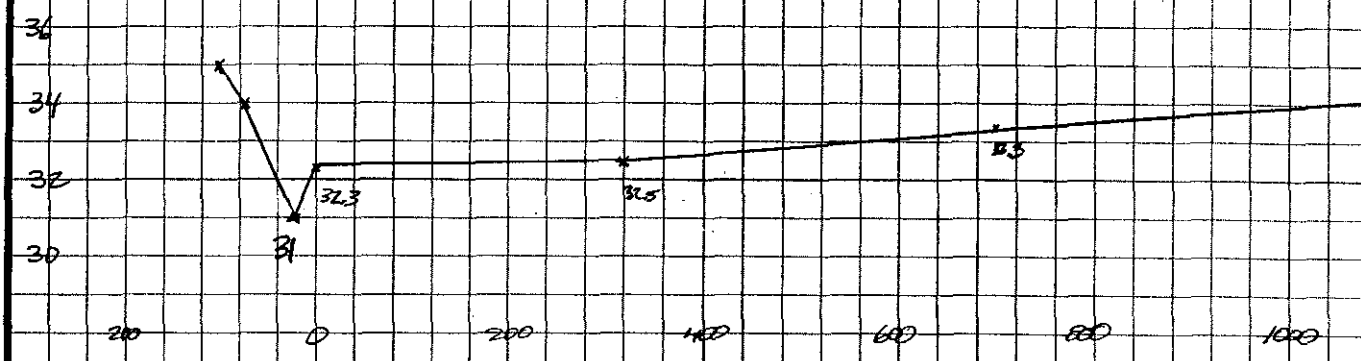
Subject WHITE TANKS ADMS Prepared by JSE Date 12-12-90

DIVERSION TABLES

SUBBASIN 244

EL MIRAGE ROAD AND ½ MILE NORTH OF CAMELBACK ROAD

CP244 TO CP243 CP244 TO CP245



DRAINAGE DITCH (WEST) REMAINDER
S = .001 ft/ft

EL MIRAGE RD (NORTH) DIVERSION
S = .0033 ft/ft

DT	DI 245						
DI	0	4	20	37	409	1819	4296
DQ	0	0	0	0	354	1750	4133

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.001
Manning's Roughness Coefficient (n-value)	.04
Channel Side Slope - Left Side (horizontal/vertical)	23
Channel Side Slope - Right Side (horizontal/vertical)	16
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	3.9	0.53	0.169	0.00	0.50	7.38	24.50	31.5	4
1.00	19.5	0.79	0.188	0.01	1.01	24.50	44.00	32.0	20
1.30	36.8	0.93	0.195	0.01	1.31	39.45	55.70	32.3	37

<Enter>: Repeat, <R>eport, <S>creen Graph, <P>rint Graph, or <Esc>: End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.001
Manning's Roughness Coefficient (n-value)	.04
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	16
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	18.9	0.70	0.181	0.01	0.51	27.00	58.00	32.0	56
1.00	61.9	1.07	0.201	0.02	1.02	58.00	66.00	33.3	99
1.50	125.5	1.35	0.212	0.03	1.53	93.00	74.00	32.6	162

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

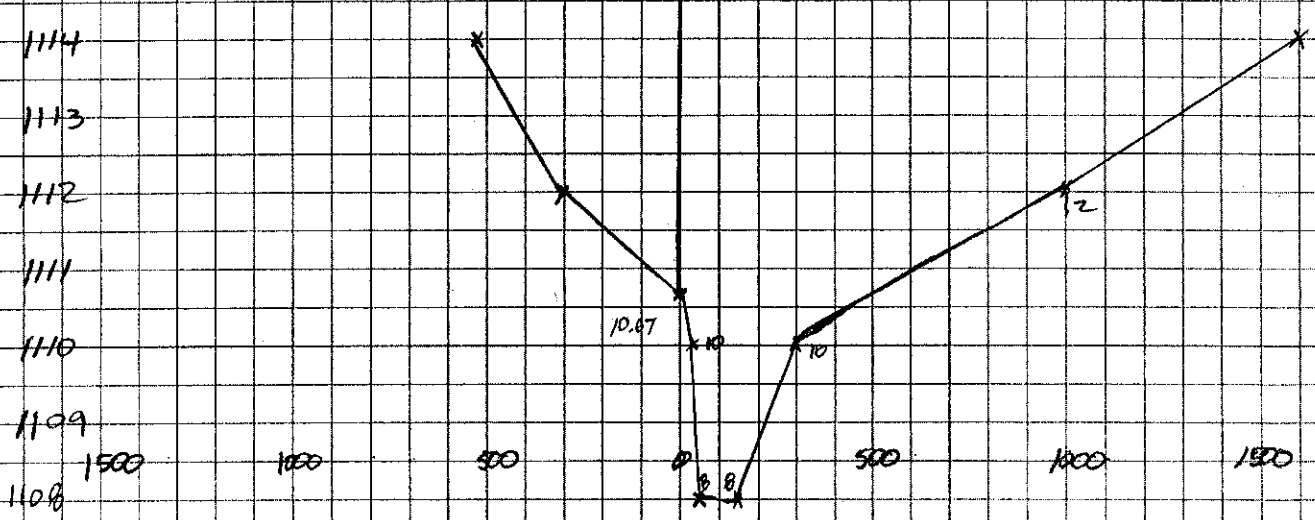
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN (247) PERRYVILLE ROAD AND INDIAN SCHOOL ROAD

CP 247 TO CP 261 CP 247 TO CP 248



INDIAN SCHOOL ROAD (WEST)
DIVERSION
S = .0067 1/1

PERRYVILLE ROAD (NORTH)
REMAINDER
S = .0167 1/1

DT	DI261				
DI	0	3183	4006	8756	30610
DQ	0	0	0	293	4086

Form 209

CP 247 TO CP261

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0067
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.40	292.4	2.78	0.577	0.12	1.52	105.00	145.00	1112	293

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0067
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
2.00	3793.1	4.74	0.661	0.35	2.35	800.00	500.00	1114	4086

Enter Depth of Flow, or Press the <Esc> Key to End

CP247 TO CP248

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0167
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	50
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
2.00	3183.2	6.37	1.003	0.63	2.63	500.00	400.00	1110	3183

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0167
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	50
Channel Bottom Width (feet)	250

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.70	823.2	3.89	0.887	0.23	0.93	211.75	355.00	1110.7	4006

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0167
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	500

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)

1.30	4457.9	6.07	0.991	0.57	1.87	734.50	630.00	ELEV 1112	Q. 8463

CP 247 TO CP248

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0167
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	1000

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
2.00	18061.0	8.21	1.068	1.05	3.05	2200.00	1200.00	1114	26524

Enter Depth of Flow, or Press the <Esc> Key to End

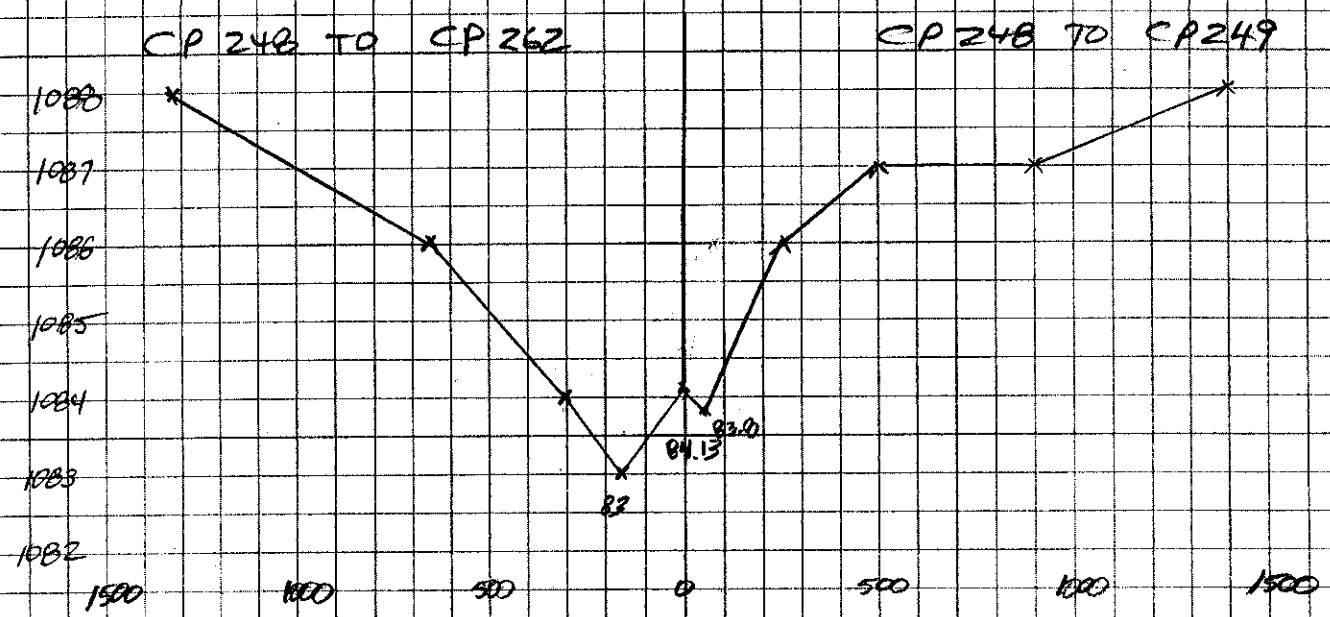
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 248 CITRUS ROAD AND INDIAN SCHOOL ROAD



INDIAN SCHOOL ROAD (WEST)
DIVERSION
S = .0111 ft/ft

CITRUS ROAD BERM (NORTH)
REMAINDER
S = .0025 ft/ft

DT	DI262			
DI	0	691	6380	18685
DQ	0	683	5565	15348

Form 209

CP248 TO CP262

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0111
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.00	682.7	3.41	0.737	0.18	1.18	200.00	300.00	1084	683

<Enter>: Repeat, <R>eport, <S>creen Graph, <P>rint Graph, or <Esc>: End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0111
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
2.00	4882.3	6.10	0.850	0.58	2.58	800.00	500.00	1086	5565

Enter Depth of Flow, or Press the <Esc> Key to End

CP248 TO CP262

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0111
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	650

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	~~ELEV~~	~~Q~~
2.00	9782.9	6.52	0.865	0.66	2.66	1500.00	850.00	1088	15348

Enter Depth of Flow, or Press the <Esc> Key to End

CP 248 TO CP 249

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	10

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.30	7.9	0.66	0.279	0.01	0.31	12.00	70.00	1084.1	8

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	80

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.90	807.2	2.43	0.385	0.09	1.99	332.50	270.00	1086	815

Enter Depth of Flow, or Press the <Esc> Key to End

CP248 TO CP249

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	250

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.00	573.6	1.91	0.364	0.06	1.06	300.00	350.00	1087	1389

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	900

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
1.00	1947.6	2.05	0.371	0.07	1.07	950.00	1000.00	1088	3337

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

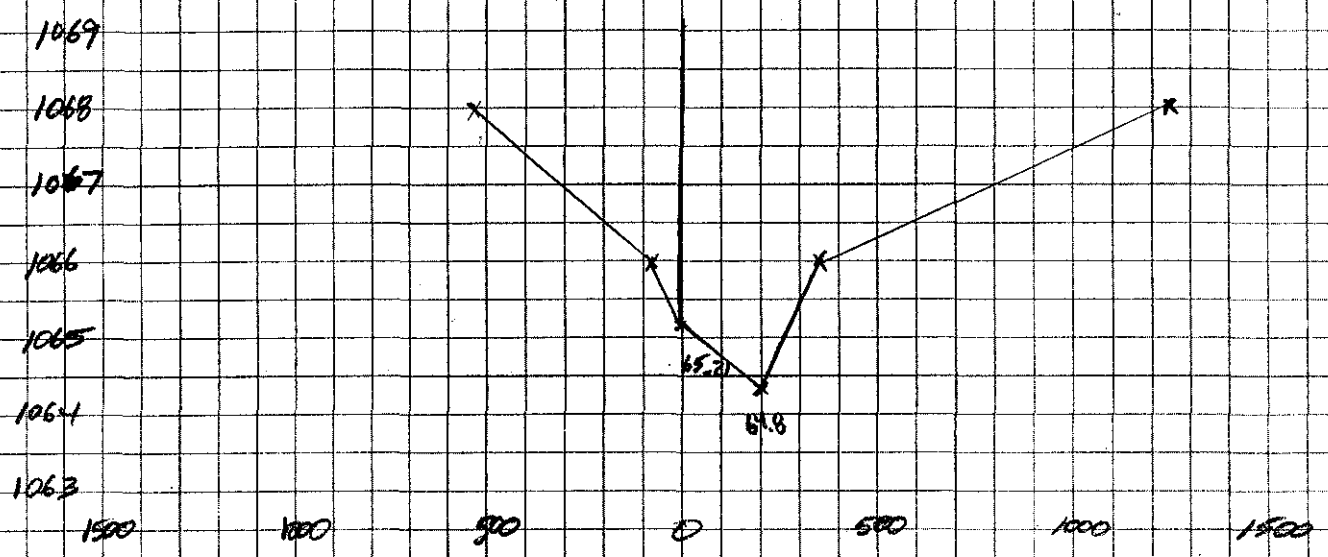
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 249 INDIAN SCHOOL ROAD AND COTTON LANE

CP 249 TO CP 264 CP 249 TO CP 250



INDIAN SCHOOL ROAD (WEST)
DIVERSION
S = .0088 ft/ft

COTTON LANE (NORTH)
REMAINDER
S = .0044 ft/ft

OT	DI 264				
DI	0	72	654	2109	5685
DQ	0	0	66	481	1754

Form 209

CP 249 TO CP 264

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .0088
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 80
Channel Bottom Width (feet) 5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.80	66.5	2.25	0.605	0.08	0.88	29.60	69.00	1066	66

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .0088
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 100
Channel Bottom Width (feet) 80

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	415.2	3.19	0.662	0.16	1.16	130.00	180.00	1067	481

Enter Depth of Flow, or Press the <Esc> Key to End

CP249 TO CP 264

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0088
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.00	1273.1	3.64	0.685	0.21	1.21	350.00	400.00	1068	1754

Enter Depth of Flow, or Press the <Esc> Key to End

CP 249 TO CP 250

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.40	72.4	1.29	0.409	0.03	0.43	56.00	180.00	1065.2	72

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	250

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.80	515.8	2.22	0.467	0.08	0.88	232.00	330.00	1066	588

Enter Depth of Flow, or Press the <Esc> Key to End

CP249 TO CP250

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	350

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.00	1039.9	2.60	0.486	0.10	1.10	400.00	450.00	1087	1628

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	800

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.00	2302.6	2.71	0.491	0.11	1.11	850.00	900.00	1088	3931

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

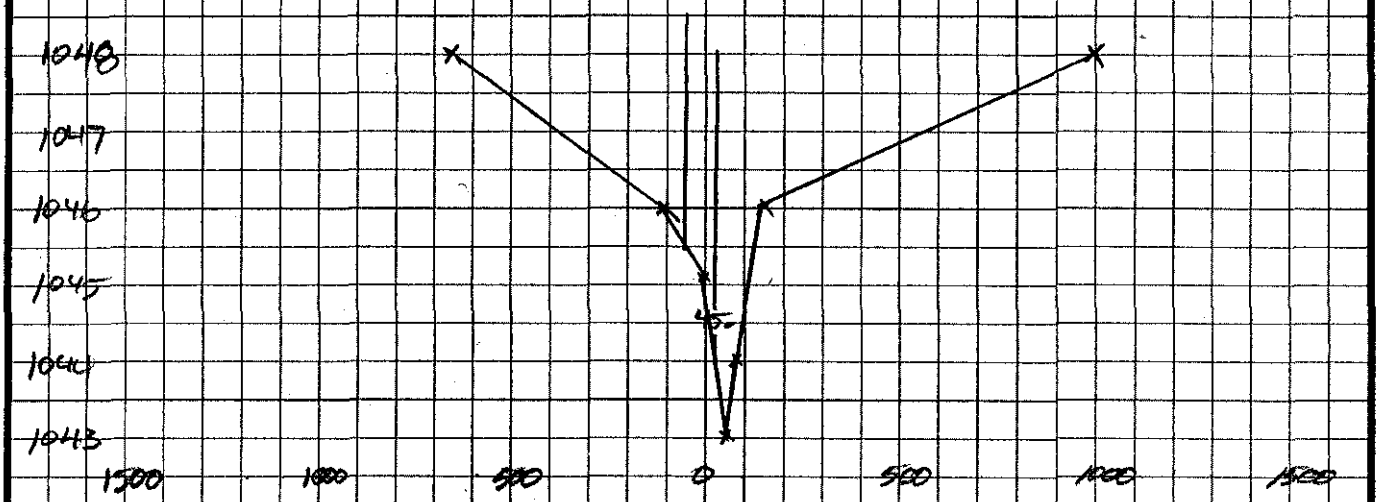
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 250A INDIAN SCHOOL ROAD AND SARIVAL AVE

CP 250 A TO CP 265A CP250A TO CP266 CP250A TO CP251



INDIAN SCHOOL ROAD (WEST) DIVERSION S= .0025 1/1

INTERSECTION DIVERSION S= .015 1/1

SARIVAL AVE BERM (NORTH) REMAINDER S= .016 1/1

DT DI265A

DI	0	825	2520	4782	10712
DQ	0	0	13	174	958

DT ID266

DI	0	825	2507	4608	9754
DQ	0	0	1091	2476	4520

Form 209

CP250A TO CP265A

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	13.3	0.89	0.299	0.01	0.51	15.00	55.00	1046	13

CP250A TO CP265A

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	161.3	1.61	0.348	0.04	1.04	100.00	150.00	1047	174

Enter Depth of Flow, or Press the <Esc> Key to End

CP250A TO CP265A

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	350

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	783.9	1.96	0.366	0.06	1.06	400.00	450.00	1048	958

Enter Depth of Flow, or Press the <Esc> Key to End

CP250A TO CP266

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.015
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.50	831.6	6.93	1.388	0.75	2.25	120.00	155.00	1045.5	832

CP250A TO CP266

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.015
Manning's Roughness Coefficient (n-value)	.022
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	258.8	5.18	1.290	0.42	0.92	50.00	100.00	1046	1091
1.50	1594.3	10.63	1.529	1.75	3.25	150.00	100.00	1047	2426
2.50	3687.6	14.75	1.644	3.38	5.88	250.00	100.00	1048	4520

Enter Depth of Flow, or Press the <Esc> Key to End

CP250A TO CP251

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	50
Channel Side Slope - Right Side (horizontal/vertical)	20
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
2.00	823.7	5.49	0.951	0.47	2.47	150.00	145.00	1045	824

CP250A TO CP 251

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	50
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	591.8	4.73	0.914	0.35	1.35	125.00	150.00	1046	1416

Enter Depth of Flow, or Press the <Esc> Key to End

CP250A TO CP251

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	120

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	766.5	4.51	0.904	0.32	1.32	170.00	220.00	1047	2182

CP 250A TO CP251

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.016
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	550

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	3051.7	5.09	0.933	0.40	1.40	600.00	650.00	1048	5234

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

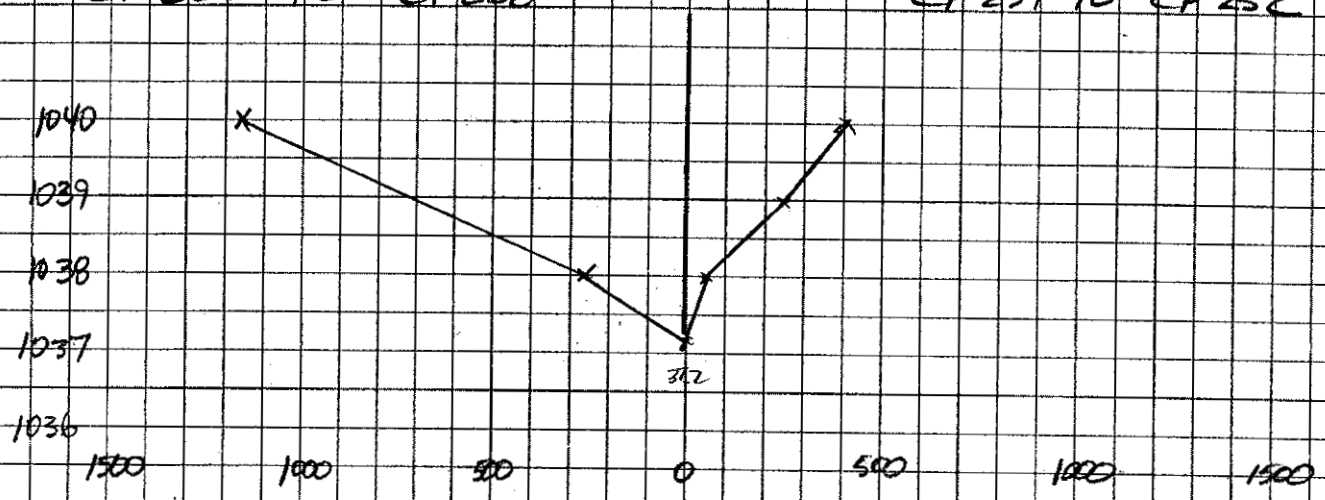
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN (251) INDIAN SCHOOL ROAD AND ½ MILE EAST OF SARIVAL AVE

CP 251 TO CP 266 CP 251 TO CP 252



INDIAN SCHOOL ROAD (WEST) DIVERSION S = .0031 ½

½ MILE EAST OF SARIVAL AVE. (NORTH) REMAINDER S = .0013 ½

DT 2D 266

DI 0 70 825 2936

DQ 0 48 687 2384

Form 209

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0031
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.80	47.7	1.32	0.359	0.03	0.83	36.00	85.00	1038	48

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TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0031
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	250

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	638.7	2.13	0.405	0.07	1.07	300.00	350.00	1039	687

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0031
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	700

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	1696.9	2.26	0.412	0.08	1.08	750.00	800.00	1040	2384

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0013
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	65
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.80	21.6	0.87	0.233	0.01	0.81	24.80	57.00	1038	22

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0013
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	116.3	1.16	0.251	0.02	1.02	100.00	150.00	1039	138

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0013
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	250

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	413.6	1.38	0.262	0.03	1.03	300.00	350.00	1040	552

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

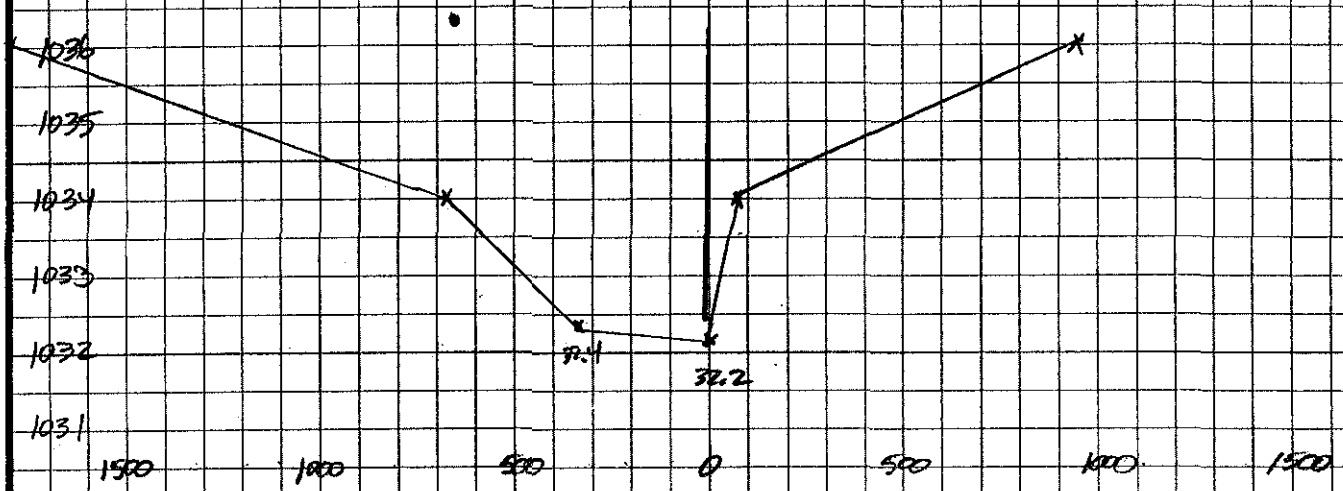
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 252 REEMS ROAD AND INDIAN SCHOOL ROAD

CP 252 TO CP 267 CP 252 TO CP 253



INDIAN SCHOOL ROAD (WEST) DIVERSION S = .005 1/1

REEMS ROAD (NORTH) REMAINDER S = .0024 1/1

DT DI267

DI	0	67	2745	5417	10449
DQ	0	66	2582	5037	8991

Form 209

CP252 TO CP267

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	320

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.20	66.4	1.01	0.402	0.02	0.22	66.00	340.00	1032.4	66

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	350

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.60	2516.5	3.66	0.555	0.21	1.81	688.00	510.00	1034	2582

Enter Depth of Flow, or Press the <Esc> Key to End

CP252 TO CP267

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	800

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	2454.6	2.89	0.524	0.13	1.13	850.00	900.00	1035	5037

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.005
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	1300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	3954.0	2.93	0.526	0.13	1.13	1350.00	1400.00	1036	8991

Enter Depth of Flow, or Press the <Esc> Key to End

CP252 TO CP253

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0024
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	45
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.20	1.0	0.54	0.260	0.00	0.20	1.90	14.00	1032.4	1.0
1.80	162.6	1.99	0.359	0.06	1.86	81.90	86.00	1034	163

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0024
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	80

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	216.9	1.67	0.346	0.04	1.04	130.00	180.00	1035	380

Enter Depth of Flow, or Press the <Esc> Key to End

CP252 TO CP253

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0024
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	500

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	1078.3	1.96	0.361	0.06	1.06	550.00	600.00	1036	1458

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

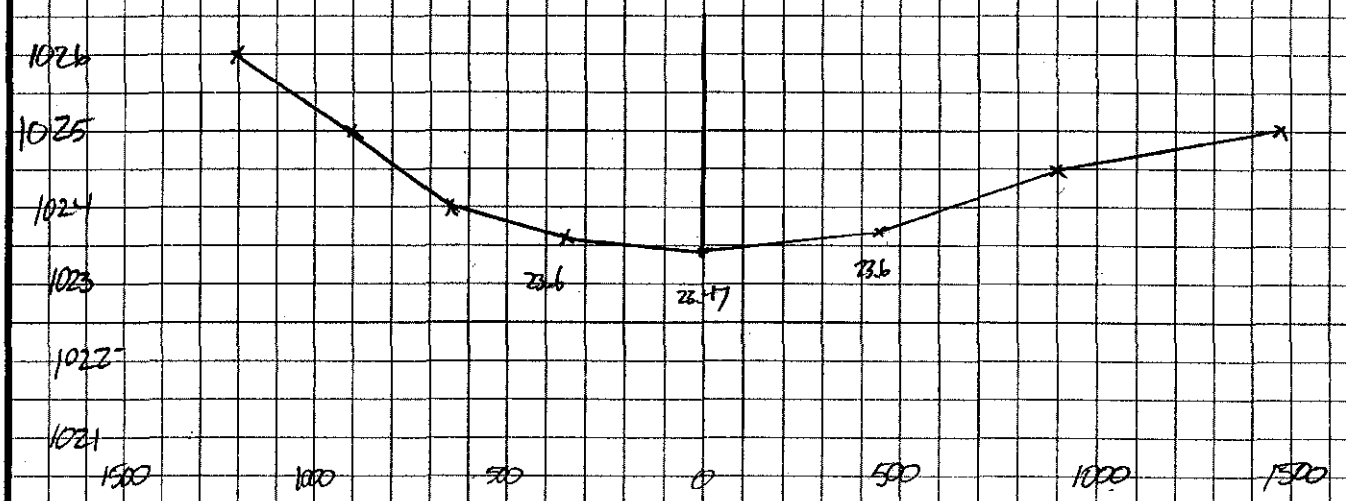
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 256 INDIAN SCHOOL ROAD AND DYSART ROAD

CP 256 TO CP255 CP 256 TO CP271A



DYSART ROAD (WORTH)
REMAINDER
S= .015 1/1

INDIAN SCHOOL ROAD (EAST)
DIVERSION
S= .03 1/1

DT	DI-271A			
DI	0	98	1231	8218
DQ	0	64	794	4308

Form 209

CP 256 TO CP 255

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.015
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.10	33.8	1.11	0.622	0.02	0.12	30.50	310.00	1023.6	34

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.015
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	350

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.40	403.1	2.72	0.779	0.12	0.52	148.00	390.00	1024	437

Enter Depth of Flow, or Press the <Esc> Key to End

CP 256 TO CP 255

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.015
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	650

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
1.00	3473.2	4.96	0.905	0.38	1.38	700.00	750.00	1025	3910

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.015
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	900

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.00	4770.7	5.02	0.908	0.39	1.39	950.00	1000.00	1026	8681

Enter Depth of Flow, or Press the <Esc> Key to End

CP256 TO CP271A

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .03
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 100
Channel Side Slope - Right Side (horizontal/vertical) 0
Channel Bottom Width (feet) 400

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.10	63.6	1.57	0.881	0.04	0.14	40.50	410.00	1023.6	64

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .03
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 100
Channel Side Slope - Right Side (horizontal/vertical) 0
Channel Bottom Width (feet) 450

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.40	729.6	3.88	1.104	0.23	0.63	188.00	490.00	1024	794

Enter Depth of Flow, or Press the <Esc> Key to End

CP256 TO CP271A

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.03
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	600

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.50	1409.6	4.51	1.146	0.32	0.82	312.50	650.00	1024.5	2204

Enter Depth of Flow, or Press the <Esc> Key to End

CP 256 TOCP271A

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.03
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	900

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	2104.1	4.55	1.149	0.32	0.82	462.50	950.00	1025	4300

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

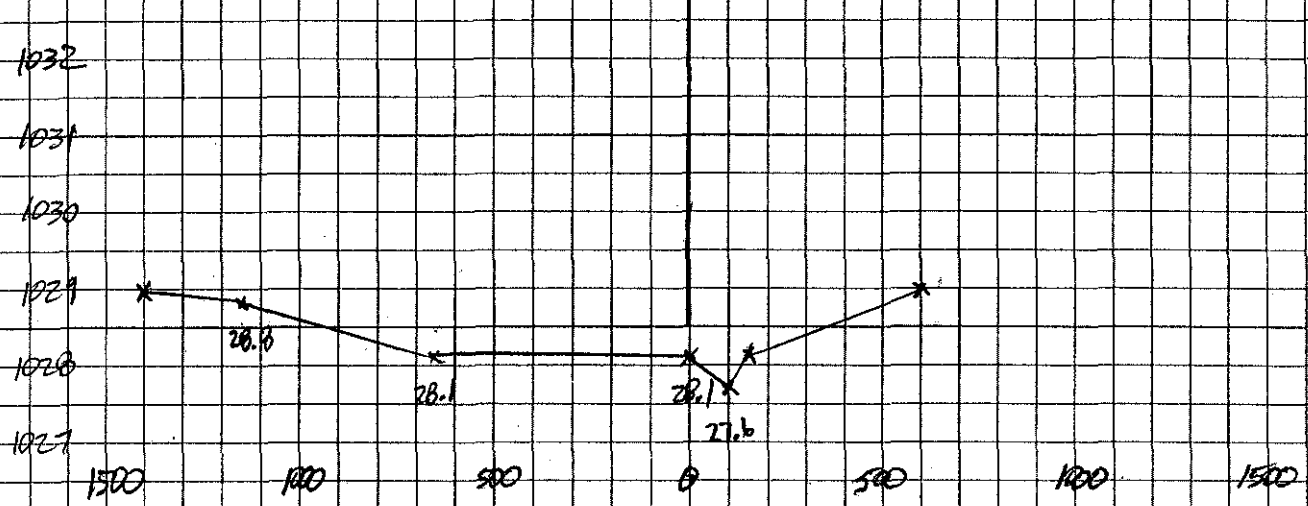
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 257 INDIAN SCHOOL ROAD AND ½ MILE EAST OF DYSART ROAD

CP 257 TO CP 256 CP 257 TO CP 271B



½ MILE EAST OF DYSART ROAD (BEAM NORTH) DIVERSION S = .004 ⅓

INDIAN SCHOOL ROAD (EAST) REMAINDER S = .003 ⅓

DT DI 256.

DI 0 56 1308

DQ 0 0 922

Form 209

CP257 TO CP256

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.004
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	650

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.40	382.9	1.43	0.404	0.03	0.43	268.00	690.00	1028.5	383

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.004
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	900

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.30	326.7	1.19	0.386	0.02	0.32	274.50	930.00	1028.8	710

Enter Depth of Flow, or Press the <Esc> Key to End

CP257 TO CP256

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.004
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	1150

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.20	211.8	0.91	0.361	0.01	0.21	232.00	1170.00	1029	922

Enter Depth of Flow, or Press the <Esc> Key to End

CP257 TO CP 271B

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.003
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	50

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.50	55.9	1.12	0.341	0.02	0.52	50.00	150.00	1028.1	56

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.003
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	150

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.90	330.4	1.88	0.388	0.06	0.96	175.50	240.00	1029	386

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

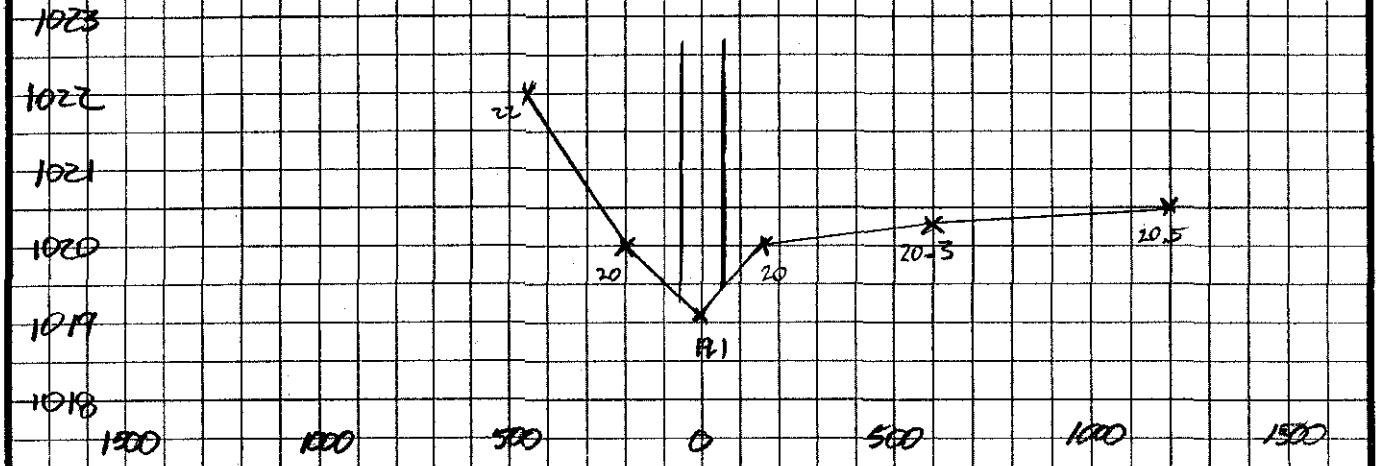
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 258A INDIAN SCHOOL ROAD AND AIRLINE CANAL

CP 258A TO CP 271C CP258A TO CP272 CP 258A TO CP259



INDIAN SCHOOL ROAD (WEST) REMAINDER S=.0014 1/1

INTERSECTION DIVERSION S=.01 1/1

AIRLINE CANAL BERM (NORTH) DIVERSION S=.0083 1/1

DT DI272

DI	0	39	236	1644
DQ	0	39	187	1186

DT DI259

DI	0	0	49	458
DQ	0	0	33	169

Form 209

CP 258A TO CP 271C

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .0014
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 100
Channel Bottom Width (feet) 5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.60	15.6	0.74	0.230	0.01	0.61	21.00	65.00	1020	16

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .0014
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 100
Channel Bottom Width (feet) 150

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
1.00	273.1	1.37	0.269	0.03	1.03	200.00	250.00	1021	289

Enter Depth of Flow, or Press the <Esc> Key to End

CP258A TO CP27K

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0014
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	275

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
1.00	468.5	1.44	0.273	0.03	1.03	325.00	375.00	1022	757

Enter Depth of Flow, or Press the <Esc> Key to End

CP 258A TO CP 272

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	20

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.40	39.4	1.64	0.590	0.04	0.44	24.00	100.00	1019.5	39

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	147.7	2.36	0.645	0.09	0.59	62.50	150.00	1020	187
1.50	1146.7	4.37	0.751	0.30	1.80	262.50	250.00	1021	1186
2.50	3261.2	5.80	0.806	0.52	3.02	562.50	350.00	1022	3300

Enter Depth of Flow, or Press the <Esc> Key to End

CP 258A TO CP259

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0033
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	30

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.50	32.8	1.19	0.358	0.02	0.52	27.50	80.00	1020	33

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0033
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
0.30	34.7	1.01	0.344	0.02	0.32	34.50	130.00	1020.3	68

Enter Depth of Flow, or Press the <Esc> Key to End

CP258A TO CP259

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0033
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	600

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.20	100.6	0.82	0.328	0.01	0.21	122.00	620.00	10225	169

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

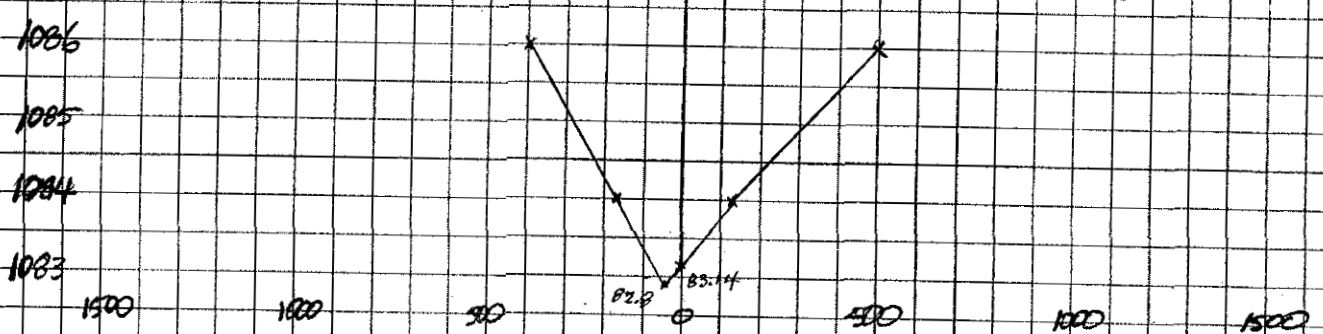
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN (261) PERRYVILLE ROAD AND THOMAS ROAD

CP 261 TO CP 274 CP261 TO CP277



THOMAS ROAD (WEST)
DIVERSION
S = .004 %

PERRYVILLE ROAD (NORTH)
REMAINDER
S = .01 %

DT	DI 274			
DI	0	7	271	3982
DQ	0	7	170	1868

Form 209

CP 261 TO CP274

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.004
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.30	7.3	0.70	0.306	0.01	0.31	10.50	65.00	1083.1	7

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.004
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	60

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.90	162.5	1.72	0.382	0.05	0.95	94.50	150.00	1084	170

Enter Depth of Flow, or Press the <Esc> Key to End

CP 261 TO CP 274 (Cont.)

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.004
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	180

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
2.00	1697.9	3.03	0.440	0.14	2.14	560.00	380.00	1086	1868

Enter Depth of Flow, or Press the <Esc> Key to End

CP261 TO CP277

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
0.90	100.9	2.24	0.574	0.08	0.98	45.00	95.00	1084.0	101

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	120

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
2.00	2012.8	4.57	0.687	0.32	2.32	440.00	320.00	1086	2114

Enter Depth of Flow, or Press the <Esc> Key to End

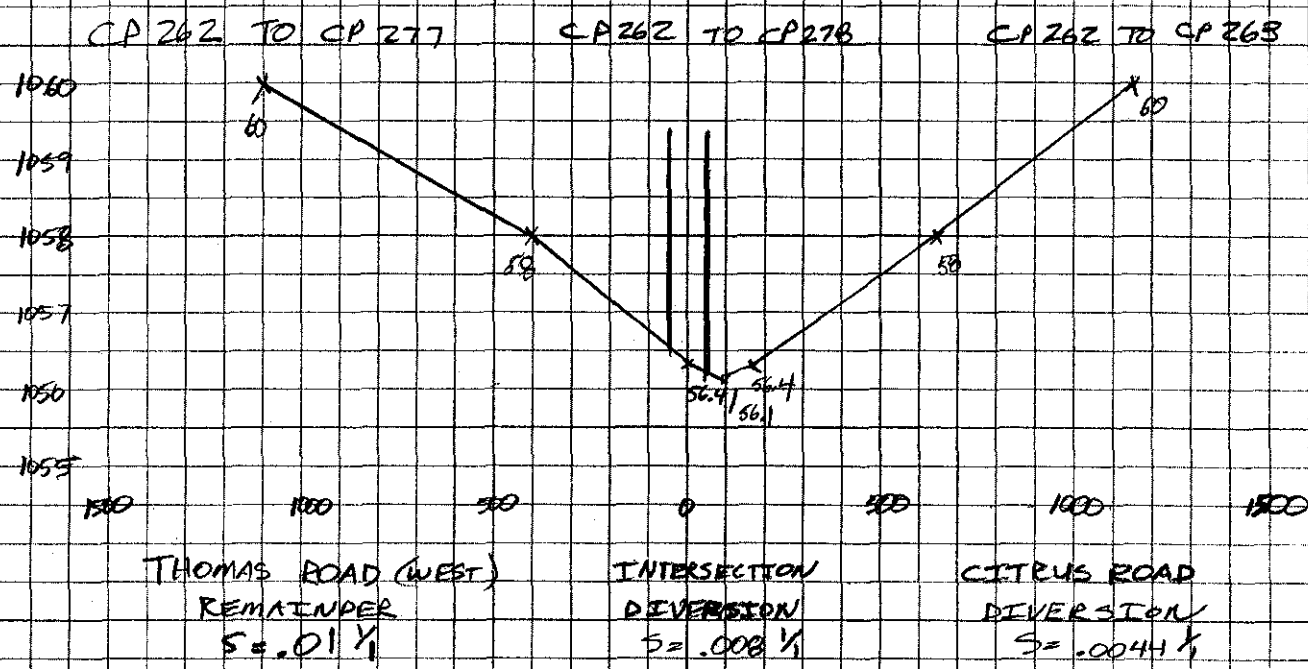
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 262 THOMAS ROAD AND CITRUS ROAD



DT ID 278

DI	0	8	12	1885	12547
DQ	0	0	4	644	1672

DT DI 263

DI	0	8	8	1241	10875
DQ	0	8	8	867	5869

Form 209

CP 262 TO CP 277

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.50	373.5	3.11	0.623	0.15	1.65	120.00	155.00	1058	374

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.01
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	350

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
2.00	4631.6	5.15	0.709	0.41	2.41	900.00	550.00	1060	5006

Enter Depth of Flow, or Press the <Esc> Key to End

CP262 TO CP278

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.25	4.0	0.92	0.422	0.01	0.26	4.38	30.00	1056.5	4

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
1.50	640.4	4.27	0.614	0.28	1.78	150.00	100.00	1058	644

Enter Depth of Flow, or Press the <Esc> Key to End

CP262 TO CP278

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.008
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	BLEU	CO
2.00	1027.7	5.14	0.640	0.41	2.41	200.00	100.00	1060	1672

Enter Depth of Flow, or Press the <Esc> Key to End

CP262 TO CP263

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.30	7.7	0.73	0.320	0.01	0.31	10.50	65.00	1056.4	8

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	120

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q
1.60	858.7	2.68	0.442	0.11	1.71	320.00	280.00	1058	867

Enter Depth of Flow, or Press the <Esc> Key to End

CP262 TO CP263

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0044
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	600

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
2.00	5001.6	3.57	0.476	0.20	2.20	1400.00	800.00	1060	5869

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

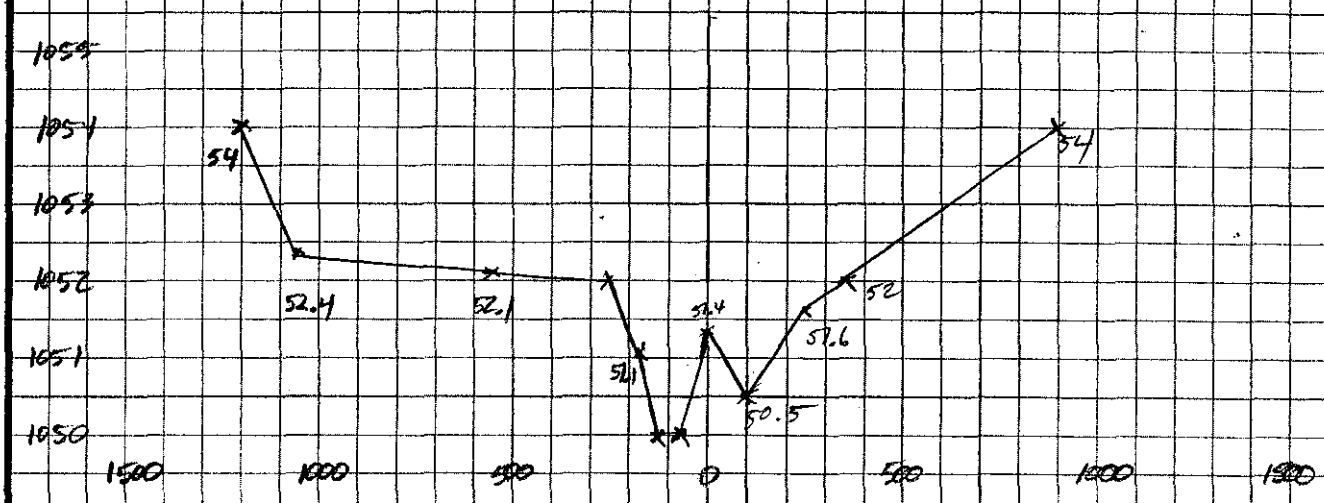
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 263 THOMAS ROAD AND ½ MILE EAST OF CITRUS ROAD

CP 263 TO CP278 CP 263 TO CP264



THOMAS ROAD (WEST)
DIVERSION
S = .033 Y/1

½ MILE EAST OF CITRUS RD (NORTH)
REMAINDER
S = .022 Y/1

DT	20278			
DI	0	922	2066	25246
DQ	0	653	1253	17563

Form 209

CP263 TO CP278

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.033
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	36
Channel Side Slope - Right Side (horizontal/vertical)	50
Channel Bottom Width (feet)	20

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.40	652.7	5.81	1.146	0.52	1.92	112.28	140.40	1051.4	653

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.033
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	75
Channel Bottom Width (feet)	200

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.60	600.1	4.49	1.073	0.31	0.91	133.50	245.00	1052	1253

Enter Depth of Flow, or Press the <Esc> Key to End

CP263 TO CP278

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.033
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	250

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.40	376.9	3.49	1.008	0.19	0.59	108.00	290.00	1052.4	1630

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.033
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	1050

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
1.60	15933.3	8.81	1.270	1.21	2.81	1808.00	1210.00	1054	17563

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.022
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	90
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.90	268.5	3.30	0.854	0.17	1.07	81.45	176.00	1051.4	269

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.022
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	220

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
0.60	544.4	3.63	0.874	0.20	0.80	150.00	280.00	1052	813

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.022
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	350

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV.	Q.
2.00	6869.8	7.63	1.052	0.90	2.90	900.00	550.00	10540	7683

Enter Depth of Flow, or Press the <Esc> Key to End

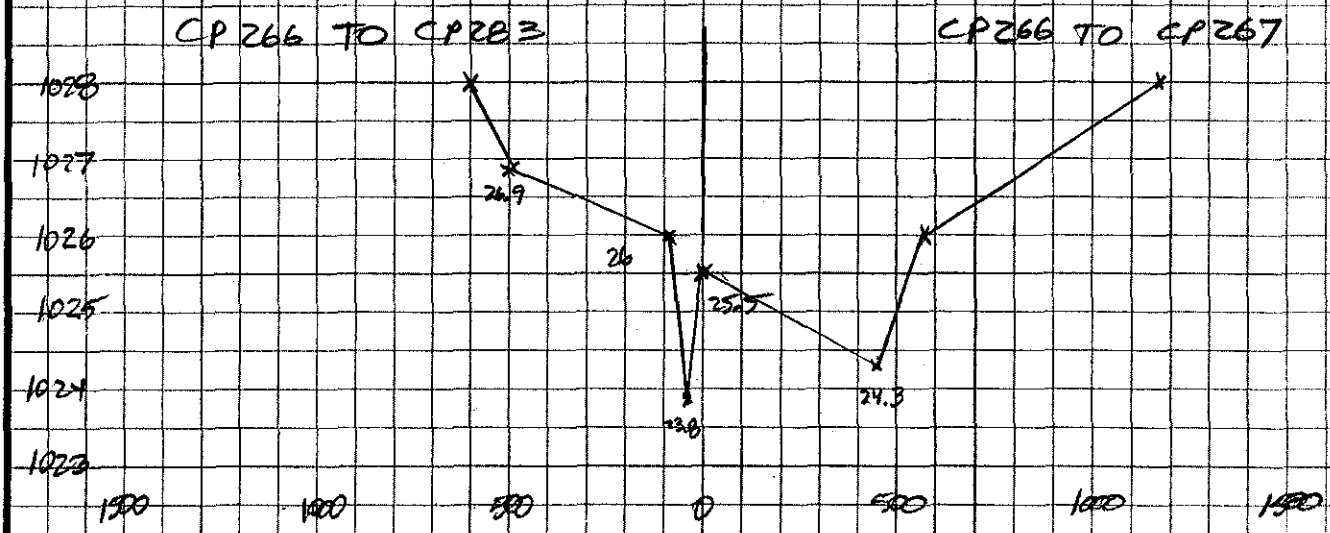
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 266 THOMAS ROAD AND ½ MILE WEST OF REEMS ROAD



THOMAS ROAD (WEST)
DIVERSION
S = .0014 ft/ft

½ MILE WEST OF REEMS (NORTH)
REMAINDER
S = .0031 ft/ft

DT	DI 283				
DE	0	231	647	1811	5693
DQ	0	38	73	203	1051

Form 209

CP 266 TO CP 267

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0031
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	60
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	10

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.20	193.3	1.52	0.337	0.04	1.24	127.20	202.00	1025	193

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0031
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	60
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	580

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.50	381.1	1.28	0.323	0.03	0.53	297.50	610.00	1026	574

Enter Depth of Flow, or Press the <Esc> Key to End

CP 266 TO CP 267 (CONT)

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0031
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	580

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.90	1034.5	1.84	0.354	0.05	0.95	562.50	670.00	1026.9	1608

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0031
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	580

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
2.00	4068.1	2.99	0.399	0.14	2.14	1360.00	780.00	1028	4642

Enter Depth of Flow, or Press the <Esc> Key to End

CP 266 TO CP 283

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0014
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	2
Channel Side Slope - Right Side (horizontal/vertical)	2
Channel Bottom Width (feet)	10

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.70	37.6	1.65	0.250	0.04	1.74	22.78	16.80	1025.5	38

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0014
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	2
Channel Bottom Width (feet)	80

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.50	34.9	0.87	0.217	0.01	0.51	40.25	81.00	1026	73

Enter Depth of Flow, or Press the <Esc> Key to End

CP 266 TO CP 283 (CONT)

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0014
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	90

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.90	129.5	1.07	0.229	0.02	0.92	121.50	180.00	1026.9	203

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0014
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	500

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.10	848.1	1.39	0.245	0.03	1.13	610.50	610.00	1028	1051

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

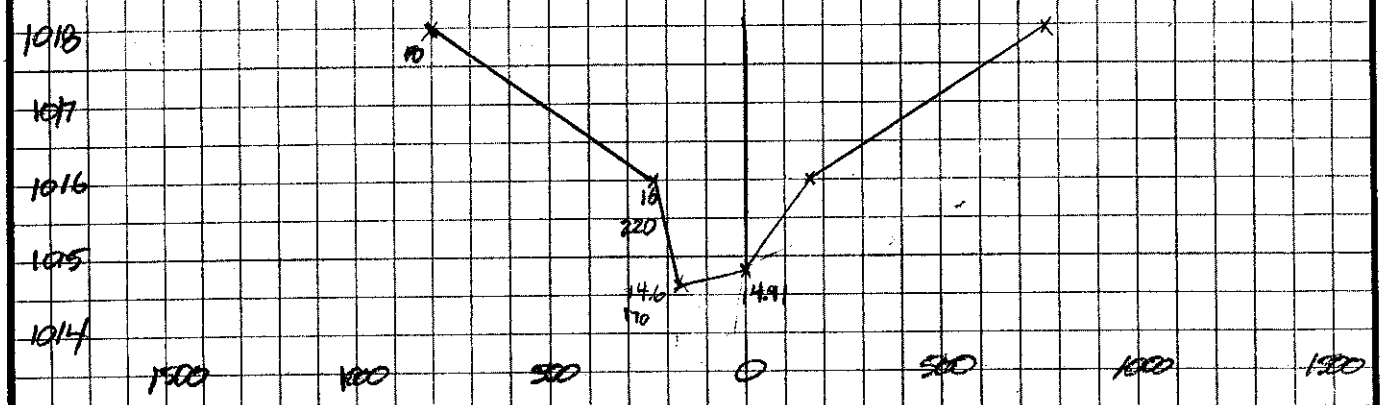
Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 267

REEMS ROAD AND THOMAS ROAD

CP267 TO CP284 CP267 TO CP268



THOMAS ROAD (WEST)
DIVERSION
S= .0025 ft/ft

REEMS ROAD (NORTH)
REMAINDER
S= .0031 ft/ft

DT	DI 284			
DI	0	5.4	506	3382
DR	0	5.4	412	1981

Form 209

CP267 TO CP284

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	36
Channel Bottom Width (feet)	10

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.30	5.4	0.59	0.246	0.01	0.31	9.12	50.80	1014.91	5.4

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	36
Channel Bottom Width (feet)	180

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.10	407.1	1.85	0.326	0.05	1.15	219.78	219.60	1016	412

Enter Depth of Flow, or Press the <Esc> Key to End

CP 267 TO CP284 (CONT.)

TRAPEZOIDAL CHANNEL ANALYSIS

RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0025
Manning's Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	220

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
2.00	1569.2	2.45	0.350	0.09	2.09	640.00	420.00	1018	1781

Enter Depth of Flow, or Press the <Esc> Key to End

CP 267 TO CP 268

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0031
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	5

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.10	93.7	1.42	0.330	0.03	1.13	66.00	115.00	1016	94

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0031
Manning`s Roughness Coefficient (n-value)	0.040
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	150

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
2.00	1306.8	2.61	0.385	0.11	2.11	500.00	350.00	1018	1401

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

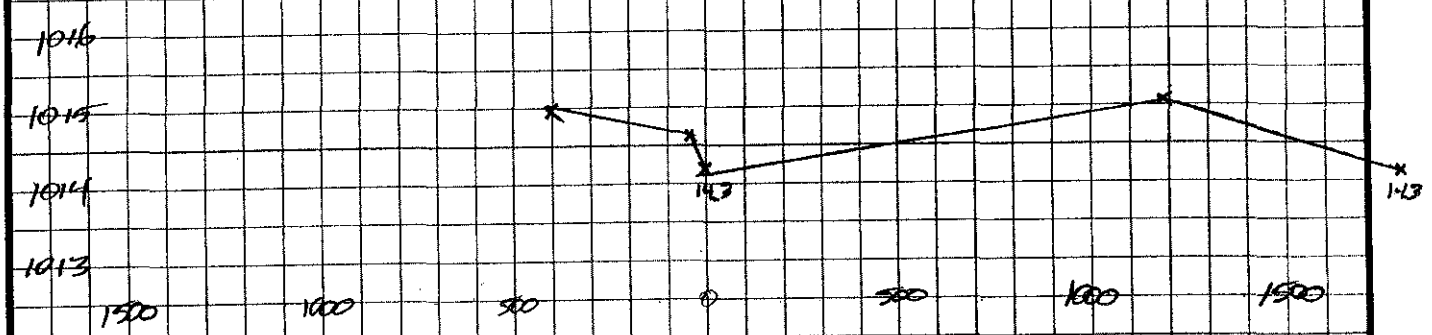
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 271 ROOSEVELT CANAL AND ≈ 1/4 MILE EAST OF LITCHFIELD ROAD

CP 271 TO CP 200 CP 271 TO CP 289



WEIR FLOW WEST ALONG CANAL (NORTH) REMAINDER

ROOSEVELT CANAL (EAST) DIVERSION

Weir FLOW $Q = CLH^{3/2}$

C = 2.6

at 1014.6 L=0 H=0 Q=0 L=1200/2 H=.3 Q=384

at 1015 L=400 H=.4 Q=263 L=2600/2 H=.7 Q=1980

AT DI 289

DI	0	384	658	1104	1621	2243
DQ	0	384	625	1011	1450	1980

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 273 I-10 & DIKE
5-10' x 3' BC

CP273 TO CP292 CP273 TO CP274

I-10 (WEST) DIVERSION DIKE (NORTH) REMAINDER

WEIR FLOW EAST OVER DIKE (SEE STORAGE-DISCHARGE TABLE FOR BOX CULVERT FLOW)

$Q = CLH^{3/2}$

C = 2.6 L = 500/2 H = 1.0

at 1058 Q = 650

DT ID 292

DI	0	40	525	850	1700
DQ	0	40	525	850	1050

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 274 I-10 + PERRYVILLE ROAD

PERRYVILLE ROAD BRIDGE BW=68 SS=2:1 S=.0167 L=165'

CP 274 TO CP292 CP274 TO CP275

I-10 (WEST) DIVERSION

PERRYVILLE ROAD (NORTH) REMAINDER

WEIR FLOW EAST OVER PERRYVILLE ROAD (SEE STORAGE-DISCHARGE TABLE FOR FLOW UNDER PERRYVILLE ROAD BRIDGE)

$Q = CLH^{3/2}$

$C = 2.6$ $L = 300/2$ $H = 1.0$

at 1048 $Q = 390$

DT 2D292

DI	0	40	665	1100	1490
DR	0	40	665	1100	1100

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 275 I-10 + DIKE INTERSECTION

4-36" RCP

CP 275 TO CP 293

I-10 (WEST)

DIVERSION

CP 275 TO CP 276

DIKE (NORTH)

REMAINDER

Weir Flow East Over Dike $Q = CLH^{3/2}$

(See Storage - Discharge Tables for Pipe Flow)

C = 2.6 H = .5 L = 30

at 1042 Q = 28 cfs

C = 2.6 H = 1.5 L = 550/2

at 1043 Q = 1313 cfs

DT 1D293

DI	0	100	188	244	1303
DQ	0	100	188	216	260

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 276 I-10 + DIKE
3-36" CMP

CP 276 TO CP 293 | CP 276 TO CP 277

I-10 (WEST) DIVERSION | DIKE (NORTH) REMAINDER

WEIR FLOW EAST OVER DIKE (SEE STORAGE DISCHARGE TABLES FOR PIPE FLOW)
$Q = CLH^{3/2}$

C = 2.6 L = 30 H = .5
at 1036 Q = 28 cfs
C = 2.6 L = 400/2 H = .5
at 1037 Q = 955 cfs

DT 2D 293

DI	0	18	75	115	1063
DQ	0	18	75	87	108

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 277 I-10 & CITRUS RD
Citrus Rd Bridge Bw = 68 SS = 2:1 So = .0105 L = 165'

CP277 TO CP293 CP277 TO CP279D

I-10 (WEST) DIVERSION CITRUS ROAD (NORTH) REMAINDER

WEIR FLOW EAST OVER CITRUS ROAD (SEE STORAGE-DISCHARGE TABLE FOR FLOW UNDER BRIDGE)
$Q = CLH^{3/2}$

C = 2.6 L = 800/2 H = .7
at 1028 Q = 610 cfs

DT	3D293				
DI	0	255	525	2380	3410
DQ	0	255	525	2380	2800

Form 209

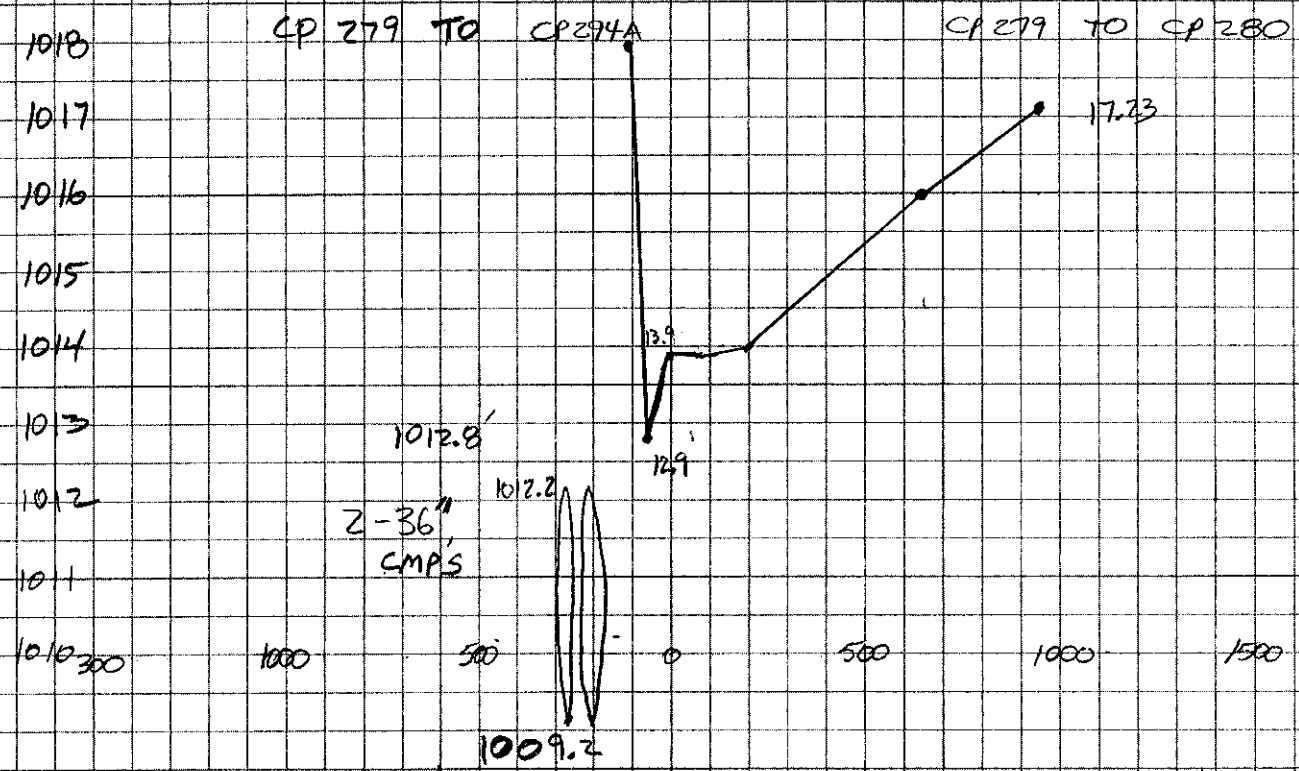
The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 9-26-91

DIVERSION TABLES

SUBBASIN 279 I-10 AND COTTON LANE



DT	3D 294A						
DI	0	36	131	457	1087	3812	5907
DQ	0	36	131	306	562	1438	2092

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 279A I-10 + DIKE
5 - 29" x 45" HERCP 1-24" CMP

CP 279A TO CP 294A
I-10 (WEST)
DIVERSION

CP 279A TO CP 279
DIKE (NORTH)
REMAINDER

WEIR FLOW EAST OVER DIKE (SEE STORAGE - DISCHARGE TABLE FOR PIPE FLOW)

$Q = CLH^{3/2}$

$C = 2.6$ $L = 150/2$ $H = 1.0$
at 1018 $Q = 195$ cfs

DT 20294A

DI	0	22	79	177	453
DQ	0	22	79	177	258

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 279B I-10 + DIKE
1-24" CMP

CP279B TO CP294A CP279B TO CP279A

I-10 (WEST) DIVERSION DIKE (NORTH) REMAINDER

WEIR FLOW EAST OVER DIKE (SEE STORAGE-DISCHARGE TABLE FOR PIPE FLOW)

$Q = CLH^{3/2}$

C = 2.6 L = 400/2 H = .5
at 1020.5 Q = 184
L = 600/2 H = 2
at 1022 Q = 2206

DT 1D294A

DI	0	10	195	2221
DQ	0	10	11	15

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 279C I-10 + DIKE
4-36" CMP 1-24" CMP

CP 279C TO CP294 CP279C TO CP279B

I-10 (WEST) DIVERSION DIKE (NORTH) REMAINDER

WEIR FLOW EAST OVER DIKE (SEE STORAGE-DISCHARGE TABLE FOR PIPE FLOW)
$Q = C L H^{3/2}$

C = 2.6 L = 400/2 H = 1.5
at 1024 Q = 955

AT ZD 294

DI	0	89	1095
DQ	0	89	140

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 279D I-10 + DIKE
1-24" CMP

CP 279D TO CP 294 CP 279D TO CP 279C

I-10 (WEST) DIVERSION DIKE (NORTH) REMAINDER

WEIR FLOW EAST OVER DIKE (SEE STORAGE-DISCHARGE TABLE FOR PIPE FLOW)
$Q = CLH^{3/2}$

$C = 2.6$ $L = 350/2$ $H = .5$
at 1024 $Q = 160$ cfs

DT 1D294 * Pipe is Ineffective

DI	0	0	162
DQ	0	0	160

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-18-91

DIVERSION TABLES

SUBBASIN 281

CP 281 TO CP 280

Divert Weir Flow $Q = CLH^{3/2}$

C = 2.6
L = 300/2
H = 1.4

Remainder Weir Flow

C = 2.6
L = 300/2
H = 1.6

Qat 1010 = 646 cfs

Qat 1010 = 7893 cfs

DT DI280

DI 0 8539

DQ 0 646

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 285 REEMS ROAD & I-10

REEMS RD BRIDGE BW = 95' SS = 2:1 S = .0028 L = 600

CP 285 TO CP297A

I-10 (WEST) DIVERSION

CP 285 TO CP287

REEMS ROAD (NORTH) REMAINDER

SEE STORAGE - DISCHARGE TABLE FOR FLOW UNDER BRIDGE AND FLOW OVER REEMS ROAD

DT 2D297A

DI	0	82	694	1687
DQ	0	23	188	462

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 285A I-10 & DIKE
1-30" RGRCP 6'x4' BC 1-30" RGRCP

CP285A TO CP 297A CP285A TO CP 285

I-10 (WEST) DIKE (NORTH)

WEIR FLOW EAST OVER DIKE (SEE STORAGE - DISCHARGE TABLE FOR PIPE FLOWS)

$Q = CLH^{3/2}$

C = 2.6 L = 30 H = .5
at 1006 Q = 28
L = 5 1/2 H = 1.0
at 1006.5 Q = 68 cfs

DT 1 D297A

DI	0	35	193	196	246	925
DQ	0	35	193	196	218	237

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 285B I-10 & DIKE

5-29"x45" HERCP 2-24" RCP

CP 285B TO CP 297 CP285B TO CP 285A

I-10 (WEST) DIVERSION

DIKE (NORTH) REMAINDER

WEIR FLOW EAST OVER DIKE (SEE STORAGE-DISCHARGE TABLE FOR PIPE FLOW)

$Q = CLH^{3/2}$

C = 2.6 L = 350/2 H = .5

at 1010 Q = 161

DT	1D 297			
DI	0	16	227	435
DQ	0	16	227	274

Form 200

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 287E

CP 287E TO RC287E REMAINDER	CP 287E TO CP 502 DIVERSION

SEE STAGE-STORAGE-DISCHARGE TABLES FOR DIVERT DATA

DT DI 302

DI	0	19	58	717	13575
DQ	0	19	58	65	65

Form 200

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 290

CP 290 TO CP 291 — DIVERSION

CP290 TO RCP290 — REMAINER

SEE STAGE-STORAGE-DISCHARE TABLES FOR DIVERT DATA

DT DI 291

DI	0	112	122	130	867	13222
DQ	0	0	0	0	725	13080

Form 209

The WLB Group Inc. WLB

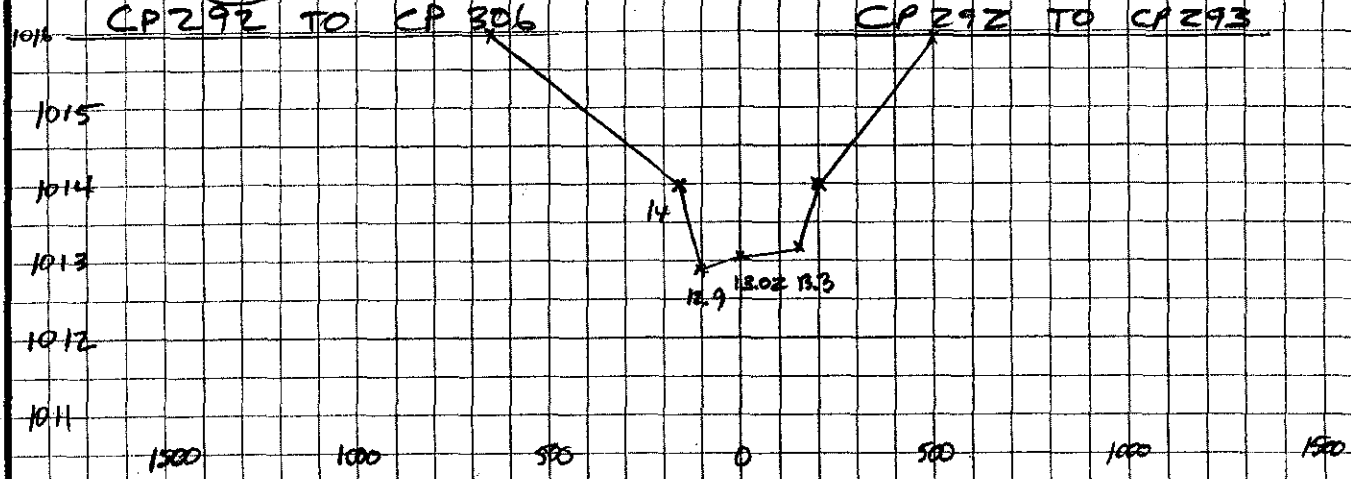
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-1-91

DIVERSION TABLES

SUBBASIN 292

CP 292 TO CP 306 CP 292 TO CP 293



VAN BUREN STREET (WEST) DIVERSION

PERRYVILLE ROAD (NORTH) REMAINDER

Weir Flow $Q = CLH^{3/2}$

at 1013.02

H = .12 L = 110/2 Q = 6 H = 0 L = 0 Q = 0

at 1013.5

H = .6 L = 120 Q = 145 H = .48 L = 180 Q = 156

at 1014

H = 1.1 L = 170 Q = 510 H = .98 L = 200 Q = 504

at 1014.5

H = 1.6 L = 300 Q = 1579 H = 1.48 L = 290 Q = 1358

at 1015

H = 2.0 L = 400 Q = 2942 H = 1.98 L = 370 Q = 2680

DT ID 306

DI	0	6	301	1014	2937	5622
DR	0	6	145	510	1579	2942

The WLB Group Inc. WLB

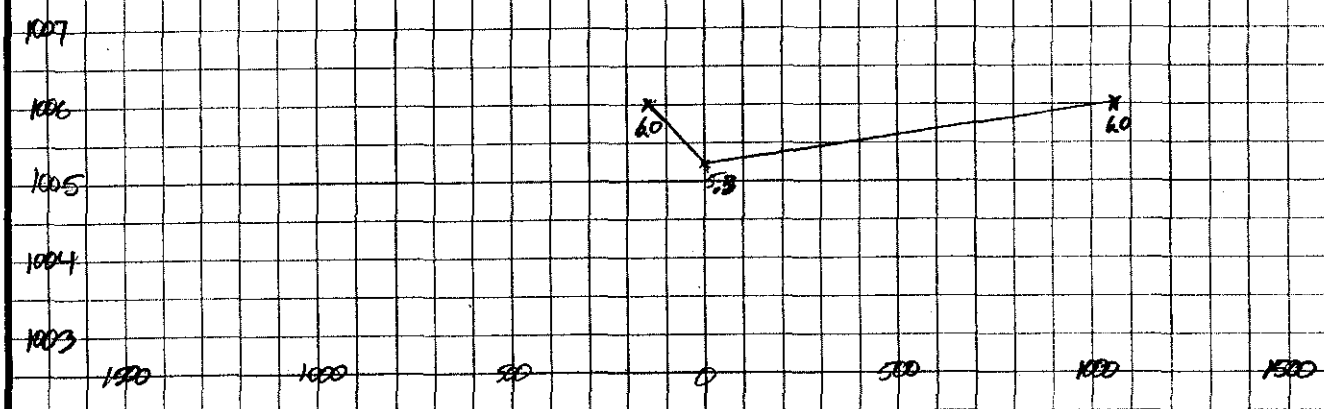
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 1-31-91

DIVERSION TABLES

SUBBASIN 293A

CP293A TO CP306 | CP293A TO CP309



PERRYVILLE ROAD (NORTH) DIVERSION

ROOSEVELT CANAL (EAST) REMAINDER

Weir Flow $Q = CLH^{3/2}$
C = 2.6

at 1005.8 H=.5 L=90/2 Q=41 cfs | H=.5 L=800/2 Q=368 cfs

at 1006 H=.7 L 120/2 Q=91 cfs | H=.7 L=1050/2 Q=800 cfs

DT 2D 306

DI 0 409 891

DQ 0 41 91

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 302

CP 302 TO RCP302 REMAINDER	CP 302 TO CP320 DIVERSION

SEE STAGE-STORAGE-DISCHARGE TABLE FOR DIVERT DATA

DT DI 320

DI	0	16	38	49	117	3687
DQ	0	0	0	0	66	3625

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 320

CP 320 TO CP338A DIVERSION	CP 320 TO RCP320 REMAINDER

SEE STAGE-STORAGE-DISCHARGE TABLE FOR DIVERT DATA

DT	DI 338A									
DI	0	16	50	71	87	100	112	114	1335	10496
DQ	0	0	0	0	0	0	0	0	1218	10373

Form 209

The WLB Group Inc. WLB

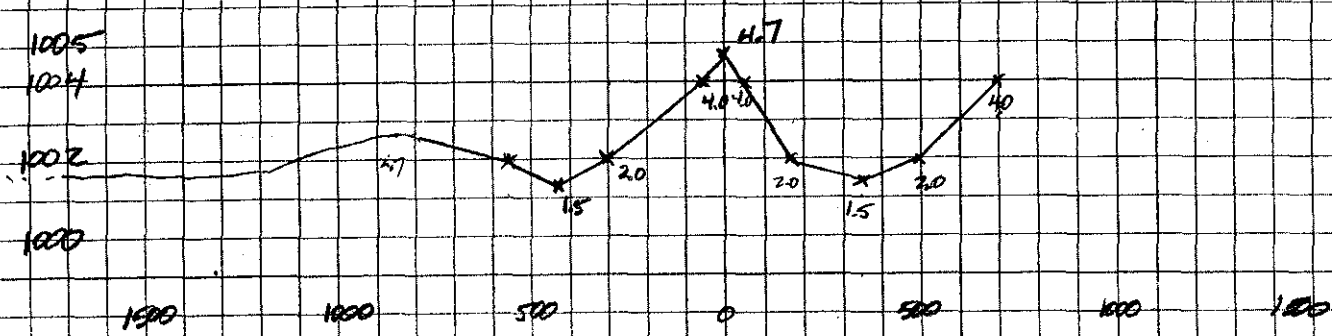
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 1-31-91

SUBBASIN 323 DIVERSION TABLES

INTERSECTION OF AIRPORT ROAD AND ROOSEVELT CANAL

CP 323 TO 324 CP 323 TO 321



ROOSEVELT CANAL (EAST) REMAINDER

Weir Flow $Q = CLH^{3/2}$

C = 2.6 L = 300/2 H = .3

Q at 1001.8 = 64 cfs

Q at 1002 = 1838 cfs L = 2000 H = .5

INTERSECTION

AIRPORT ROAD (NORTH) DIVERSION

Weir Flow $Q = CLH^{3/2}$

C = 2.6 L = 300/2 H = .3

Q at 1001.8 = 64 cfs

Q at 1002 = 138 L = 300/2 H = .5

DT	DI 321		
DI	0	128	1976
DQ	0	64	138

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-18-91

DIVERSION TABLES

SUBBASIN 337

CP 337 TO CP 367 IN AGUA FRIA RIVER

96" SD FLOW

DT DI367

DI	0	100	200	300	383	500	1000	5000	8000
DQ	0	100	200	300	383	383	383	383	383

Form 209

CIRCULAR CHANNEL ANALYSIS
RATING CURVE COMPUTATION
February 18, 1991

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0013
Manning's Roughness Coefficient (n-value).....	0.0120
Channel Diameter (feet).....	8.00

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
1.0	11.9	3.27	0.696	0.166	1.166	3.63	5.29
2.0	48.8	4.97	0.735	0.383	2.383	9.83	6.93
3.0	106.6	6.19	0.732	0.595	3.595	17.22	7.75
4.0	178.1	7.09	0.705	0.780	4.780	25.13	8.00
5.0	254.5	7.70	0.657	0.921	5.921	33.05	7.75
6.0	324.9	8.03	0.586	1.002	7.002	40.44	6.93
7.0	374.3	8.03	0.476	1.000	8.000	46.64	5.29
7.5	383.2	7.83	0.388	0.951	8.451	48.96	3.87
7.6	382.8	7.76	0.364	0.935	8.535	49.33	3.49
7.7	381.3	7.68	0.335	0.916	8.616	49.65	3.04
7.8	378.3	7.58	0.299	0.891	8.691	49.93	2.50
7.9	372.8	7.43	0.247	0.858	8.758	50.15	1.78
7.9	368.2	7.33	0.205	0.835	8.785	50.22	1.26
8.0	361.7	7.20	0.134	0.804	8.794	50.26	0.57

CIRCULAR CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.2 (c) 1986
Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092
(713) 895-8322. A complete program manual is available.

The WLB Group Inc. WLB

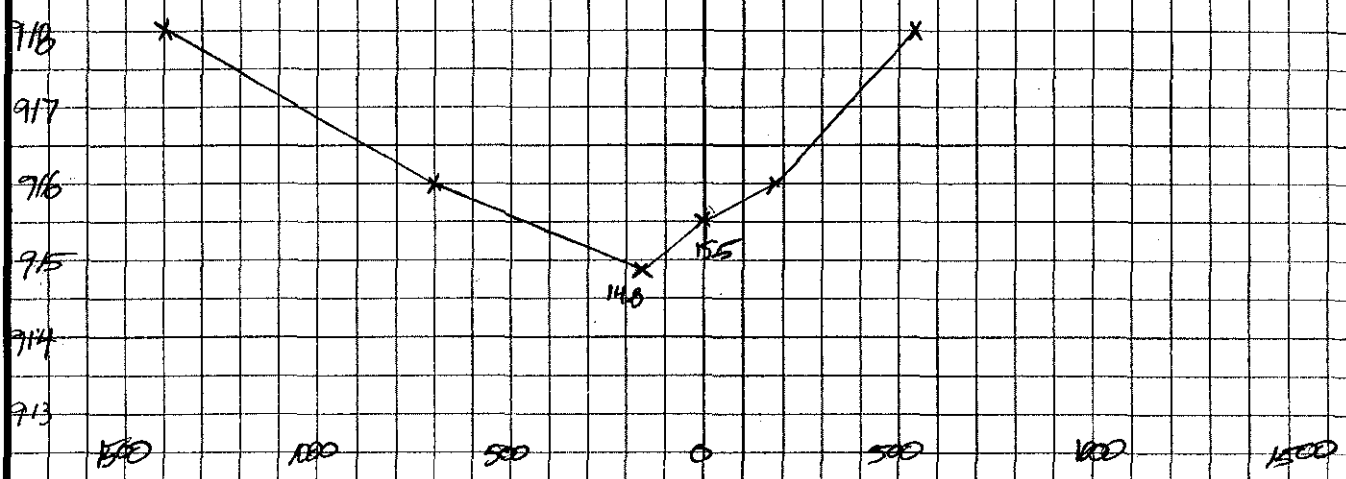
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-12-91

DIVERSION TABLES

SUBBASIN 346A COTTON LANE NORTH OF S.P.R.R.

CP 346A TO CP 346B CP 346A TO CP 347



FIELD WEST OF COTTON LANE
DIVERSION
S=.0047 ft/ft

COTTON LANE (BERM EAST)
REMAINDER
S=.0033 ft/ft

DT DI346B

DI	0	530	1173	4502	9188
DQ	0	530	1088	3758	7301

Form 209

CP346A TO CP346B

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0047
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	300

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.70	529.5	2.04	0.470	0.06	0.76	259.00	440.00	915.5	530

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0047
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	0
Channel Side Slope - Right Side (horizontal/vertical)	100
Channel Bottom Width (feet)	600

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.50	557.9	1.79	0.454	0.05	0.55	312.50	650.00	916	1088

Enter Depth of Flow, or Press the <Esc> Key to End

CP 346A TO CP 346B

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .0047
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 100
Channel Bottom Width (feet) 900

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	2670.4	2.81	0.508	0.12	1.12	950.00	1000.00	917	3758

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot) .0047
Manning's Roughness Coefficient (n-value) .035
Channel Side Slope - Left Side (horizontal/vertical) 0
Channel Side Slope - Right Side (horizontal/vertical) 100
Channel Bottom Width (feet) 1200

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	3542.7	2.83	0.509	0.12	1.12	1250.00	1300.00	918	7301

Enter Depth of Flow, or Press the <Esc> Key to End

CP 346A TO CP 347

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0033
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
0.50	84.8	1.36	0.371	0.03	0.53	62.50	150.00	916	85

Enter Depth of Flow, or Press the <Esc> Key to End

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0033
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	250

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q.
1.00	659.0	2.20	0.418	0.07	1.07	300.00	350.00	917	744

Enter Depth of Flow, or Press the <Esc> Key to End

CP346 A TO CP347

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

Channel Bottom Slope (feet per foot)	.0033
Manning's Roughness Coefficient (n-value)	.035
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	450

*** RESULTS ***

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)	ELEV	Q
1.00	1143.0	2.29	0.423	0.08	1.08	500.00	550.00	918	1887

Enter Depth of Flow, or Press the <Esc> Key to End

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 2-22-91

DIVERSION TABLES

SUBBASIN 346B WEST OF RUBBERMAID SITE

Weir Flow (West) REMAINDER

Weir Flow (South) DIVERSION

SEE STORAGE - DISCHAGE TABLE FOR DIVERT DATA

DT DI360

AI	0	27	349	1675	5428
DQ	0	0	69	423	2390

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

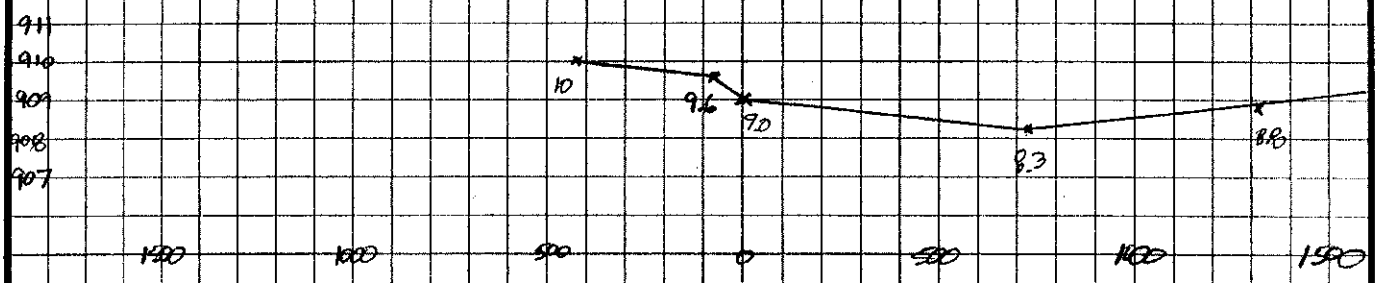
Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 1-31-91

DIVERSION TABLES

SUBBASIN (348)

INTERSECTION OF S.P.R.R. AND SARIVAL AVENUE

CP 348 TO CP 347 | CP 348 TO CP 363



SARIVAL AVENUE (NORTH) INTERSECTION SOUTHERN PACIFIC RR (EAST)

DIVERSION

Weir Flow $Q = CLH^{3/2}$

C = 2.6
L = 500/2
H = .4

Q at 910 = 165

REMAINDER

Weir Flow

C = 2.6
L = 1400/2
H = 1.3

Q at 909.6 = 3083

L = 1800/2
H = 1.7

Q at 90 = 5475

DT	DI 347		
DI	0	3083	5640
DQ	0	0	165

Form 200

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

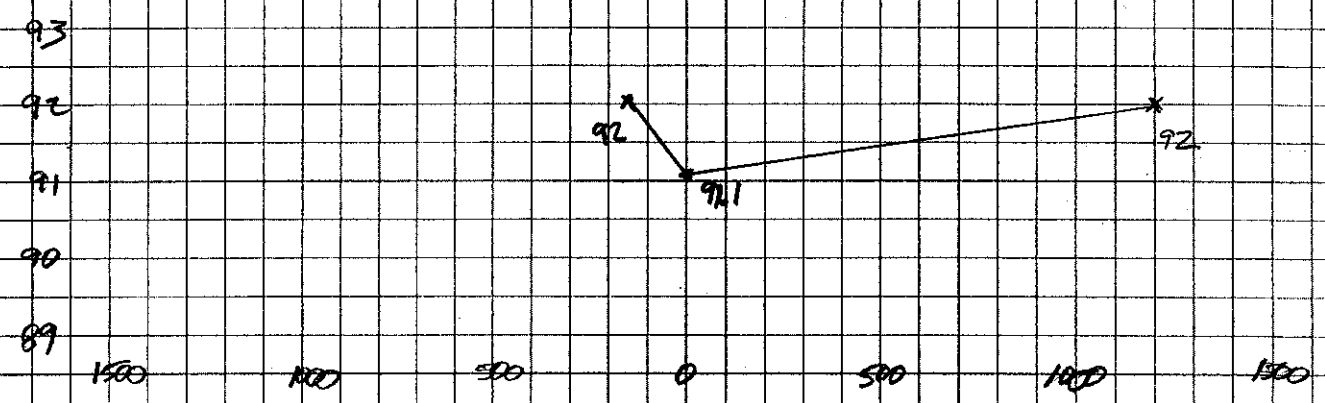
Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 1-31-91

DIVERSION TABLES

SUBBASIN 352A

Intersection of AIRPORT ROAD AND BUCKEYE CANAL

CP 352A TO CP 350 | CP 352A TO CP 372



AIRPORT ROAD (NORTH) DIVERSION

WEIR FLOW
$Q = CLH^{3/2}$
at H = .5 L = 75/2 Q = 35
at H = .9 L = 150/2 Q = 166

BUCKEYE CANAL (EAST) REMAINDER

WEIR FLOW
$Q = CLH^{3/2}$
at H = .5 L = 600/2 Q = 276
at H = .9 L = 1200/2 Q = 1332

DT	DI 350		
DI	0	311	1498
DQ	0	35	166

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

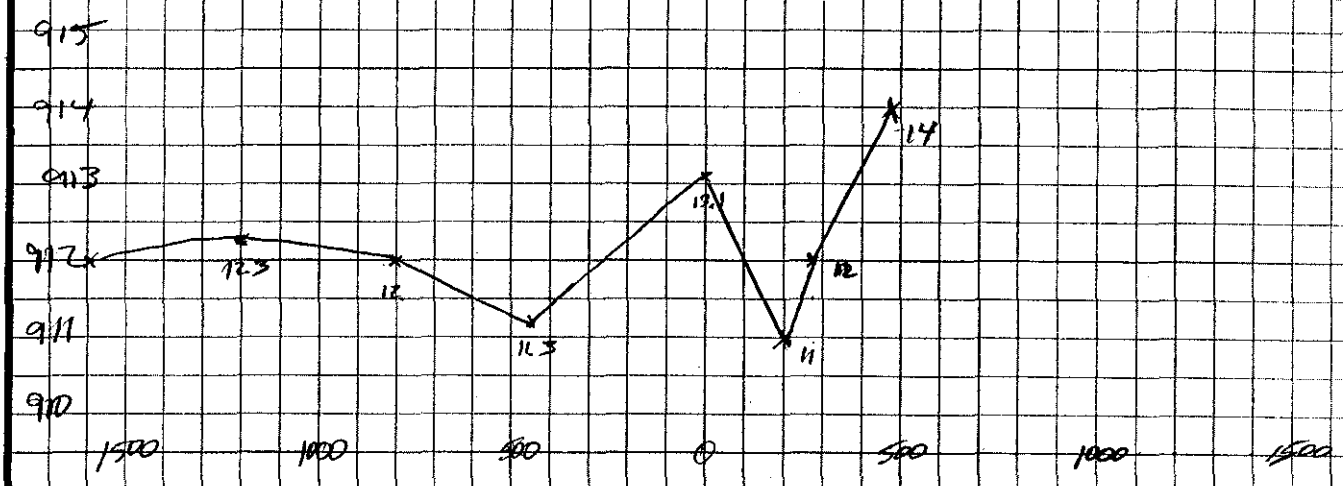
Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 1-31-91

DIVERSION TABLES

SUBBASIN 364

INTERSECTION OF REEMS ROAD AND BUCKEYE CANAL

CP 364 TO CP363 CP 364 TO GILA RIVER



REEMS ROAD (NORTH) REMAINDER

BUCKEYE CANAL (EAST) DIVERSION

Weir Flow $Q = CLH^{3/2}$

at 911.3 H=0 L=0 Q=0

at 912 H=.7 L=450/2 Q=343

at 912.5 H=1.2 L=2100/2 Q=3589

L=50 H=.3 Q=21

L=125/2 H=1.0 Q=163

L=250/2 H=1.5 Q=597

DT	DIGILA			
DI	0	21	506	4186
DQ	0	21	163	597

Form 209

The WLB Group Inc. WLB

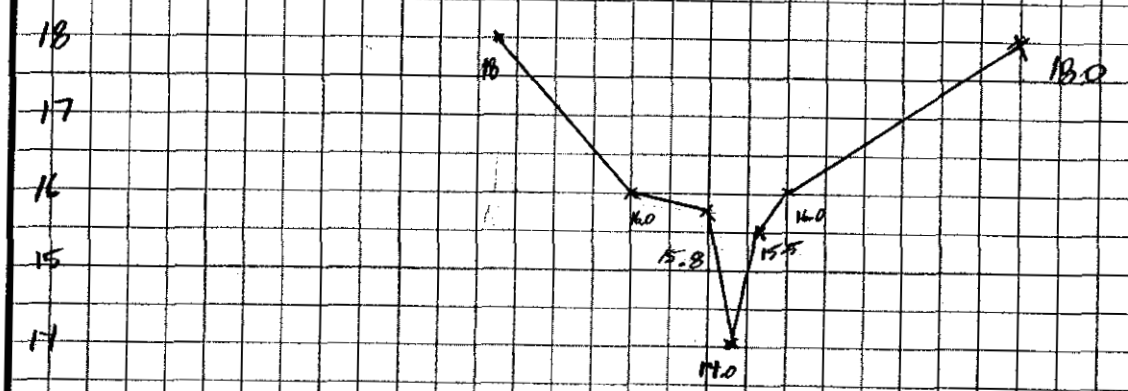
COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 1-31-91

SUBBASIN 364A DIVERSION TABLES

REEMS ROAD SOUTH OF SOUTHERN PACIFIC R.R.

CP 364A TO CP 363 CP 364A TO CP 364



800 700 600 500 400 300 200 100 0 100 200 300 400 500 600 700 800

REEMS ROAD BERM (NORTH)
DIVERSION
Weir Flow
$Q = CLH^{3/2}$

CROSS SECTION (EAST)
REMAINDER
Channel Flow
(South)
$S = .0067$ ft/ft

at 916 C=2.6 L=100/2 H=.2
Q = 12 cfs

at 917 L=190/2 H=.12
Q = 325

at 918 C=2.6 L=275/2 H=.22
Q = 1166 cfs

DT	DI 363			
DI	0	112	925	3216
DQ	0	12	325	1166

Form 209

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

Flow Rate (cubic feet per second)	80
Channel Bottom Slope (feet per foot)	.0067
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	2
Channel Side Slope - Right Side (horizontal/vertical)	2
Channel Bottom Width (feet)	6

*** RESULTS ***

NORMAL DEPTH (FEET)	1.80
Flow Velocity (feet per second)	4.65
Froude Number	0.717
Velocity Head (feet)	0.34
Energy Head (feet)	2.13
Cross-Sectional Area of Flow (square feet)	17.22
Top Width of Flow (feet)	13.18

<Enter>: Repeat, <R>eport, or <Esc>: End

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

Flow Rate (cubic feet per second)	100
Channel Bottom Slope (feet per foot)	.0067
Manning's Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	2
Channel Side Slope - Right Side (horizontal/vertical)	2
Channel Bottom Width (feet)	6

*** RESULTS ***

NORMAL DEPTH (FEET)	2.02
Flow Velocity (feet per second)	4.94
Froude Number	0.727
Velocity Head (feet)	0.38
Energy Head (feet)	2.40
Cross-Sectional Area of Flow (square feet)	20.22
Top Width of Flow (feet)	14.06

<Enter>: Repeat, <R>eport, or <Esc>: End

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

Flow Rate (cubic feet per second)	500
Channel Bottom Slope (feet per foot)	.0067
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	.01
Channel Bottom Width (feet)	100

*** RESULTS ***

NORMAL DEPTH (FEET)	1.00
Flow Velocity (feet per second)	3.34
Froude Number	0.679
Velocity Head (feet)	0.17
Energy Head (feet)	1.17
Cross-Sectional Area of Flow (square feet)	149.85
Top Width of Flow (feet)	199.93

(Enter): Repeat, (R)eport, or (Esc): End

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

Flow Rate (cubic feet per second)	1950
Channel Bottom Slope (feet per foot)	.0067
Manning`s Roughness Coefficient (n-value)	.03
Channel Side Slope - Left Side (horizontal/vertical)	100
Channel Side Slope - Right Side (horizontal/vertical)	0
Channel Bottom Width (feet)	100

*** RESULTS ***

NORMAL DEPTH (FEET)	2.00
Flow Velocity (feet per second)	4.89
Froude Number	0.747
Velocity Head (feet)	0.37
Energy Head (feet)	2.37
Cross-Sectional Area of Flow (square feet)	398.92
Top Width of Flow (feet)	299.64

(Enter): Repeat, (R)eport, or (Esc): End

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

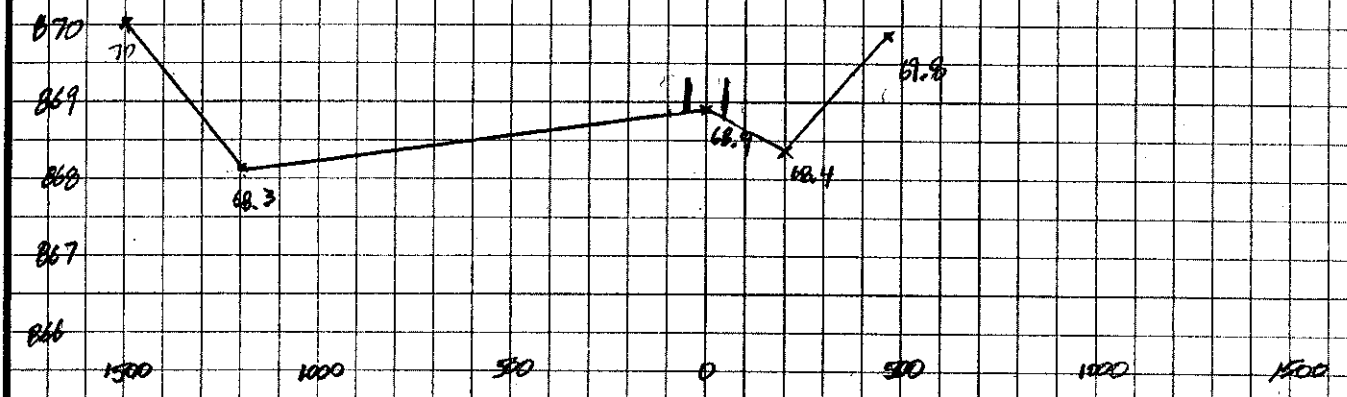
Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date 1-31-91

DIVERSION TABLES

SUBBASIN 372

INTERSECTION OF AIRPORT ROAD AND BASELINE ROAD

CP 372 TO CP 371 CP372 TO CP379 CP 372 TO CP382



AIRPORT ROAD (NORTH) DIVERSION — DIVERSION — BASELINE ROAD (EAST) REMAINDER

WEIR FLOW $Q = CLH^{3/2}$
C = 2.6

H = .6 L = 1300/2 Q = 785 Q = 0 H = .5 L = 300/2 Q = 138

H = 1.1 L = 1400/2 Q = 2100 H = .5 L = 100 Q = 92 H = 1.0 L = 300/2 Q = 494

DT	DI 371		
DI	0	923	2686
DQ	0	785	2100

DT	DI 379		
DI	0	138	586
DQ	0	0	92

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject _____ Prepared by _____ Date _____

PROBABLE DIVERSIONS IN PHASE 2 HYDROLOGY

207 TO 208 20
207 TO 217 R

208 TO 209A DI
208 TO 219 ID
208 TO 218 R

209A TO 209 20
209A TO 220 ID
209A TO 219 R

209 TO 210 20
209 TO 221 ID
209 TO 220 R

217 TO 218 DI
217 TO 235 R

218 TO 219 20
218 TO 237 DI
218 TO 236 R

219 TO 220 20
219 TO 238 DI
219 TO 237 R

220 TO 221 20
220 TO 239 DI
220 TO 238 R

234 TO 235 R
234 TO 248 ID

235 TO 236 R
235 TO 248 ID

236 TO 237 R
236 TO 250 ID
236 TO 249 DI

238 TO 239 R
238 TO 251 ID
238 TO 250A 20

239 TO 240 R
239 TO 251 20

247 TO 248 R
247 TO 261 DI

248 TO 249 R
248 TO 262 DI

249 TO 250 R
249 TO 264 DI

250A TO 251 R
250A TO 266 ID
250A TO 265A DI

252 TO 253 R
252 TO 267 DI

256 TO 255 R
256 TO 271A DI

257 TO 256 R
257 TO 271B DI

258A TO 259 DI
258A TO 272 DI
258A TO 271C R

261 TO 274 DI
261 TO 277 R

262 TO 263 R
262 TO 278 ID
262 TO 277 DI

263 TO 264 R
263 TO 278 20

266 TO 267 R
266 TO 283 DI

267 TO 268 R
267 TO 284 DI

271 TO 270 R
271 TO 289 DI

273 TO 274 R
273 TO 292 DI

274 TO 275 DI
274 TO 292 R

275 TO 276 R
275 TO 293 ID

276 TO 277 R
276 TO 293 20

277 TO 279A DI
277 TO 293 R

279B TO 279C R
279B TO 294 ID

279C TO 279B R
279C TO 294 20

279B TO 279A R
279B TO 294A ID

279A TO 279 R
279A TO 294A 20

285B TO 285A R
285B TO 297 ID

285A TO 285 R
285A TO 297A DI

285 TO 287 DI
285 TO 297A R

292 TO 293 R
292 TO 306 ID

293A TO 306 20
293A TO 309 R

323 TO 321 DI
323 TO 324 R

364A TO 363 DI
364A TO 364 R

352A TO 350 DI
352A TO 372 R

364 TO 363A DI
364 TO 363 R

372 TO 371 DI
372 TO 379 DI
372 TO 382 R

348 TO 363 DI
348 TO 347 R

237 TO 250 20
237 TO 250A ID
237 TO 238 R

251 TO 264 20
251 TO 252 R

346A TO 346B
346A TO 347 R

Form 209

The WLB Group Inc. WLB

COMPUTATION DATA SHEET

Subject WHITE TANKS / AGUA FRIA ADMS Prepared by JSE Date - - 91

DIVERSION TABLES

Form 209

DYSART ROAD

Location	Description
45′ N. of Camelback Rd. crossing Dysart Rd.	2 - 43"x27" CMPA
165′ S. of Camelback Rd. crossing Dysart Rd.	48" RCP
2632′ S. of Thomas Rd. to 2573′ S. of Thomas - E. side	30" CMP
82′ S. of Thomas Rd. to 40′ S. of Thomas Rd. - E. side	30" CMP
2031′ N. of Thomas Rd. to 2130′ N. of Thomas Rd. - W. side	30" CMP
42′ S. of Indian School Rd. to 40′ N. of Indian School Rd. - E. side	30" CMP
Van Buren N. to I-10 Basin	48" SD

EL MIRAGE

Location	Description
1200′ N. of Buckeye Canal	36" RGRCP
2544′ N. of Buckeye Canal	30" RGRCP
1273′ N. of Broadway	36" RGRCP
1368′ S. of Lower Buckeye Rd. - E. side	30" RGRCP
850′ S. of McDowell Rd.	30" RCP

GRAND AVENUE

Location	Description
.25 miles SE of Dysart Rd.	4'x2' BC

INDIAN SCHOOL ROAD REALIGNMENT

Location	Description
Litchfield Rd. 1′ to 621′ East	42" SD
621′ E. to 2340′ E.	36" SD
2340′ E. to Dysart Rd.	24" SD
160′ W. of Dysart Rd.	4 - 18" CP
500′ W. of El Mirage	36" RGRCP
2896′ E. of Reems Rd.	2 - 8′x4′ BC
600′ W. of Bullard Ave.	36" CMP
2886′ E. of Bullard Ave.	30" CP

JACKRABBIT TRAIL

Location	Description
20′ N. of Broadway	36"x51" CMP
1635′ S. of Lower Buckeye Rd.	30" CP
2666′ N. ofs Broadway - E. side	30" CP
Int. of Lower Buckeye Rd.	36" CP
2587′ N. of Lower Buckeye Rd.	30" CP
Int. of Buckeye Rd. - E. side	4′x4′ BC
2630′ N. of Lower Buckeye Rd. - E. side	30" CP
Int. of Buckeye Rd./Perryville - NW to SE	4′x4′ BC
24′ N. of Buckeye Rd.	36" CMP
3660′ N. of Buckeye Rd.	36" CP

LITCHFIELD ROAD

Location	Description
Western Ave. to 97′ N.	72" SD
97′ N. of Western to 2625′ N. of Western	54" SD
2625′ N. of Western to Van Buren St.	48" SD
Van Buren St. to 1342′ N. of Van Buren St.	36" SD
Western Ave. to 2000′ S.	90" SD
2000′ S. of Western Ave. to 1600′ N. of Broadway Rd. (turns E. into Agua Fria)	96" SD
1530′ S. of Glendale Ave.	42" RCP
2300′ S. of Northern Ave.	Dysart Drain Bridge
Van Buren N. to I-10	36" SD
Van Buren to 1/2 mile S.	48" SD
223′ S. of Glendale to 5549′ S. of Northern	42" CMP
620′ N. of Glendale Ave. to the East	36" SD
79′ N. of Northern to 103′ N. of Northern	24" CP
1110′ N. of Glendale Ave. to the West	42" SD
Glendale Ave. to 1500′ S.	42" SD
Glendale to 1100′ N. of Glendale - W. side	42" SD
1100′ N. of Glendale to 1900′ N. of Glendale - W. side of Rd.	24" SD

LOWER BUCKEYE ROAD

Location	Description
28′ W. of Central Ave.	30" CP
Int. of Lower Buckeye/El Mirage - 44′ E.	30" CP
Int. Lower Buckeye/Agua Fria River	3 - 11′x6′ BC

LUKE AIR FORCE BASE

Location	Description
2000′ W. of Litchfield Rd. to Litchfield Rd.	42" SD
620′ N. of Glendale Ave. - Litchfield Rd. to 2400′ E.	36" SD

MCDOWELL ROAD

Location	Description
McDowell Rd. - 60′ W. of Jackrabbit Rd.	4 - 12′x4.5′ BC
McDowell Rd. and Aqua Fria River	3 - 48" CMP Across McDowell Rd.

NORTHERN AVENUE

Location	Description
2642′ E. of Reems Rd. - N. side	2 - 66" HWCP
2964′ E. of Reems Rd.	2 - 50"x31" CMPA

OLIVE AVENUE

Location	Description
1/2 mile W. of Litchfield Rd. - S. side	10'x4' BC
Int. of Cotton Lane - just S. of Cotton Lane	36" CP

PERRYVILLE ROAD

Location	Description
932′ N. of State Route 85	30" RGRCP
1891′ N. of State Route 85	30" RGRCP
2485′ N. of State Route 85	30" RGRCP
4816′ N. of State Route 85	30" RGRCP
40′ N. of Southern Ave.	30" RGRCP
300′ S. of Broadway Rd.	30" RGRCP

REEMS ROAD

Location	Description
100′ N. of RID Canal	36" RGRCP
Int. of Van Buren - 40′ E. of Reems Rd.	36" RGRCP
2650′ N. of Van Buren - E. side	30" CP
4000′ N. of Van Buren - E. side	5′x4′ BC
100′ S. of Bell Road	36" CP
100′ S. of Union Hills	36" CP

THOMAS ROAD

Location	Description	
Int. Thomas Rd./Agua Fria River	2 - 36" CP	Into Agua Fria

VAN BUREN STREET

Location	Description
Litchfield Rd. to 664′ E.	30" RGRCP
Int. of Citrus - 55′ E. of Citrus	36" RGRCP
953′ E. of Citrus	30" RGRCP
120′ W. of El Mirage - S. side	30" CP
Int. of El Mirage 70′ S.	30" CP
1300′ E. of Dysart Rd. to Dysart Rd.	42" SD
Dysart Rd. E. to Agua Fria	48" SD
Int. Van Buren/Agua Fria River	1 - 30" CP Into River

WESTERN AVENUE

Location	Description
Litchfield Rd. E. to Central Ave.	72" SD
Litchfield Rd. to 1500′ W.	24" SD

SOUTHERN PACIFIC RAILROAD STRUCTURES

S.P.R.R. CULVERTS

LOCATION	DESCRIPTION
Int. S.P.R.R./Agua Fria River	1 - 36" CP Into River
Sarival Avenue just N. of S.P.R.R.	1 - 24" CP
S.P.R.R. just E. of Jackrabbit Trail	1 - 24" CP
1550′ E. of Jackrabbit Trail	49"x32" HERCP

S.P.R.R. Bridges

LOCATION	
3800′ E. of Reems Rd.	BW=25′ LSS=4:1 RSS=2:1 LC=3′ TW=85′ D=10′
1750′ E. of Reems Rd.	BW=5′ LSS=3:1 RSS=0 LC=3′ TW=15′ D=3.5′
700′ W. of Reems Rd.	BW=8′ SS=0:1 LC=2′ D=2.5′
1/2 mile W. of Reems Rd.	BW=12′ SS=0:1 LC=3′ D=2.5′
S.P.R.R. Bridge just W. of Sarival Ave.	BW=6′ SS=0:1 LC=3′ D=1′
2050′ W. of Sarival Ave.	BW=9′ SS=0:1 LC=3′ D=1′
3400′ W. Sarival Ave.	BW=12′ SS=0:1 LC=2′ D=2.5′
200′ E. of Cotton Lane	BW=12′ SS=0:1 LC=3′ D=3′
S.P.R.R. Bridge just E. of Citrus Rd.	BW=6′ SS=0:1 LC=3′ D=4′
1820′ W. of Perryville Rd.	BW=15′ SS=0:1 LC=3′ D=1.5′
3050′ W. of Jackrabbit Trail	BW=15′ SSL=3:1 SSR=3:1 LC=3′ TW=35′ D=3′
4000′ W. of Jackrabbit Trail	BW=15′ SSL=2:1 LC=3′ D=4′
750′ E. of Airport Rd.	BW=6′ SS=0:1 LC=1.5′ D=1.6′
3150′ W. of Airport Rd.	BW=38′ SSR=0:1 SSL=3:1 LC=3′ TW=55′ D=5′
700′ E. of Dean Rd.	BW=10′ SS=0:1 LC=3′ D=5′

6538+28	1-24" CMP	.0045	314	1020.36
6546+59	1-24" CMP	.0040	314	1017.20
6559+90	1-24" CMP	.0040	322	1012.50
6562+00	5-29"x45" HERCP	.00403	269	1014.93
6577+15	2-36" CMP	.0018	538	1009.20
6603+86 to 6606+68	4-Span Bridge over RID Canal; BW = 50′ SS = 2:1	.0018	165	1007.00
6630+44	36" RGRCP	.0020	373	996.65
6630+84	Sarival Avenue Bridge; BW = 68′ SS = 2:1	.0023	165	1001.70
6631+22	30" RGRCP	.0020	372	997.15
6653+00	5-29"x45" HERCP	.0054	228	1006.90
6656+10	24" CMP	.0054	308	1005.50
6656+50	24" CMP	.0054	308	1005.50
6664+91	30" RGRCP	.0010	303	1005.47
6665+37	6′x4′ BC	.00028	359	999.70
6670+45	30" RGRCP	.0020	458	1000.70
6682+82	Reems Road Bridge; BW = 95′ SS = 2:1	.0028	165	1002.50
6683+25	5′x4′ BC	.0010	273	997.62
6706+84 to 6708+86	7-Span Bridge over Bullard Wash BW = 165′ SS = 2:1	.0028	108	988.00
6750+35 to 6836+65	Detention Basin	-----	---	--------
6776+00 to 6777+14	48" RCP Between Detention Basins	.000837	114	975.71
6789+18 350′ Lt.	2-77"x121" HERCP Across Litchfield Road Between Basins	.000337	182	974.58

6345+65	1-36" CMP	.0120	210	1092.98
6349+45	1-36" CMP	.0121	280	1089.76
6354+00	1-36" CMP	.0154	254	1089.27
6357+00	1-36" CMP	.0116	266	1087.57
6360+85	1-36" CMP	.0054	258	1085.13
6366+63-6367+07	4-10'x8' BC	.0111	227	1081.16
6368+00	1-12'x12' BC	.0190	194	1083.98
6370+30	2-42" CMP	.0088	260	1084.26
6373+00	2-36" CMP	.0032	256	1083.11
6375+20	1-36" CMP	.0083	254	1084.37
6379+84	2-36" CMP	.0104	260	1083.43
6381+45	1-36" CMP	.0117	252	1083.45
6384+25	2-36" CMP	.0067	252	1081.82
6388+55	2-36" CMP	.0071	240	1081.16
6390+50	2-36" CMP	.0089	224	1082.94
6395+75	2-36" CMP	.0088	226	1080.00
6400+60	3-36" CMP	.0083	217	1078.36
6419+30	5-10'x4' BC	.0055	52	1065.41
6452+84-6453+48	5-10'x3' BC	.008	223	1053.60
6472+14	Perryville Road Bridge; BW = 68' SS = 2:1	.0167	165	1043.50
6486+00	4-36" RCP	.00675	256	1037.63
6498+35	3-36" CMP	.0049	206	1032.96
6525+19	Citrus Road Bridge; BW = 68' SS = 2:1	.0105	165	1022.10
6529+19	1-24" CMP	.0045	315	1023.33
6538+10	4-36" CMP	.0050	246	1020.36

I-10 DRAINAGE STRUCTURES

Location Stations

Tuthill Road - Sta. 6367 + 50
Jackrabbit Trail - Sta. 6419 + 30
Perryville Road - Sta. 6472 + 14
Citrus Road - Sta. 6525 + 19
Cotton Lane - Sta. 6578 + 09
Sarival Avenue - Sta. 6630 + 84
Reems Road - Sta. 6682 + 82
Bullard Avenue - Sta. 6736 + 89
Litchfield Road - Sta. 6789 + 18
Dysart Road - Sta. 6841 + 45

Station	Structure	Slope ft/ft	Length ft	Invert Elevation
6247+05	1-36" CMP	.0156	244	1135.24
6255+85	1-30" CMP	.0120	266	1133.45
6261+65	1-30" CMP	.0112	240	1132.74
6267+60	1-30" CMP	.0115	260	1128.67
6273+88	1-36" CMP	.0146	287	1124.36
6288+25	2-36" CMP	.0162	216	1112.69
6305+22	2-42" CMP	.0075	200	1099.16
6315+00	2-36" CMP	.0088	224	1994.67
6319+32	1-48" CMP	.0098	234	1092.92
6321+33	1-48" CMP	.0112	214	1091.55
6323+05	1-48" CMP	.0078	218	1091.69
6324+32	2-48" CMP	.0080	212	1091.70
6326+40	1-36" CMP	.0096	208	1092.03
6330+50	1-36" CMP	.0086	208	1092.81
6335+25	1-36" CMP	.0098	204	1093.01
6340+10	1-36" CMP	.0081	198	1092.84
6343+25	1-36" CMP	.0081	200	1092.84

COMPREHENSIVE TABLE OF EXISTING DRAINAGE STRUCTURES

BULLARD AVENUE

Location	Description
942′ N. of Buckeye Canal - E. side	57"x38" Arch Pipe
1706′ N. of Buckeye Canal - E. side	57"x38" Arch Pipe
1850′ N. of Buckeye Canal - E. side	57"x38 Arch Pipe
2303′ N. of Buckeye Canal - E. side	57"x38" Arch Pipe
1345′ S. of Broadway Rd. - E. side	57"x38" Arch Pipe
Int. of Broadway Rd. - NW to SE	42"x29" Arch Pipe
100′ S. of State Route 85	36"x22" Arch Pipe

CAMELBACK ROAD

Location	Description
2620′ E. of Sarival - N. sidef	36" CP
1663′ W. of Bullard Ave.	4 - 52" CP
Dysart Rd. just N. of Camelback Rd.	2 - 58" CMPA
272′ E. of Dysart Rd. - N. side	2 - 58" CMPA
1072′ E. of Dysart Rd. - N. side	2 - 58" CMPA
2312′ E. of Dysart Rd. - N. side	2 - 58" CMPA
2552′ E. of Dysart Rd. - N. side	2 - 58" CMPA
Int. Camelback/El Mirage - N. side	2 - 58" CMPA
Sarival Ave. 40′ N. of Camelback	2 - 60"x42" CMP 2 - 36" CP
Int. Camelback/Citrus Rd. - 40′ N. of Camelback	1 - 48" CP 1 - 24" CP
Int. Camelback/Cotton Lane - 40′ N. of Camelback	2 - 6′x3′ BC
1/2 mile E. of Sarival Ave. - 40′ N. of Camelback	2 - 48" CP 3 - 60"x42" CMP
2550′ E. of El Mirage Rd.	8′x8′ BC

CENTRAL AVENUE

Location	Description
Western Ave. to 1700′ North	54" SD

CITRUS ROAD

Location	Description
2643′ N. of Yuma Rd.	30" RCP
Van Buren to 445′ N. of Van Buren - E. side	36" RGRCP
100′ N. of RID Canal	30" RGRCP

COTTON LANE

Location	Description
534′ N. of Van Buren St.	36" CP
51′ N. of VanBuren St.	36"x22" CMPA
Int. of Cotton Lane/Roosevelt Irrigation District Canal	
E. side	30" CMP
W. side	30" CMP
Int. of McDowell Rd. - W. side	30" CP
Int. of Cotton Ln./I-10	1 - 36" CP-effective, 2 in place

DEAN ROAD

Location	Description
RID Canal - W. of Dean into Canal	36" CMP
340′ N. of RID Canal - W. side	36" CMP
41′ E. on Lower Buckeye Rd.	36" CP