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DRAINAGE REPORT

SUPPLEMENT

BELL ROAD PROJECT

SECTION 6

Prepared by

Val-Tec, Inc.

VT 18-16

August 25, 1992

Registered Professional Engineer
CERTIFICATE NO.
9355
DENNIS LeROY
DeWITT
8-25-92
Arizona U.S.A.

1816drs.rpt

A530.311

VAL-TEC, INC. CONSULTING CIVIL ENGINEERS
CIVIL ENGINEERING AND SITE DEVELOPMENT SPECIALISTS IN ARIZONA SINCE 1975
CHARLES G. NIXON, P.E. DENNIS L. DeWITT, P.E., L.S.

August 17, 1992

Mr. Russ Ewers
The Westcor Company
11411 North Tatum Blvd
Phoenix, Arizona 85028

RE: Arrowhead Towne Center
Bell Road Outfall Report
VT 18-16

Dear Russ,

Please find attached our Drainage Report Supplement, Bell Road Project, Section 6 as prepared per your request.

This supplement contains the complete Storm Drain design for the Arrowhead Towne Center Mall and Associated Commercial Parcels and related data for a revised straight outfall to Skunk Creek.

This submittal documents storm drain construction plans, for; 1) Bell Road Outfall; 2.) Ring Road Storm Drain; and 3.) Onsite Storm Drain.

Please call if you need additional information or copies of this report.

Your very truly,

Dennis L DeWitt

Dennis L. DeWitt, P.E.

FILE: 18168172.let

THE COLONNADE - 1889 E. CAMELBACK RD - PHOENIX, AZ 85016
(602) 265-6417 FAX (602) 234-3606

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TABLE OF CONTENTS

Page

1. OBJECTIVES..... 1

2. BACKGROUND..... 2

3. SCOPE..... 3

4. RECOMMENDATIONS..... 4

5. DESIGN CRITERIA..... 5

6. METHODOLOGY..... 6

7. APPENDIX 1 100 YR 30 MIN STORM 33 PAGES

8. APPENDIX 2 10 YR 30 MIN STORM 33 PAGES

9. APPENDIX 3 RAINFALL INTENSITY-DURATION-FREQUENCY RELATION 3 PAGES

10. DRAINAGE AREA EXHIBIT

Registered Professional Engineer (Civil)
CERTIFICATE NO.
9355
DENNIS LEROY
DeWITT
Date Signed 8-18-92
ARIZONA, U.S.A.

OBJECTIVES

The upstream Arrowhead Towne Center Mall Project, being the primary area served by the outfall, desires a minimum of 18 inches freeboard from the collected water surface of a 100 year 30 minute storm. Additionally, the Mall Project wishes to satisfy the City of Glendale 100 year storm management requirements without the necessity of onsite storm water retention basins.

The downstream City of Peoria area south of Paradise Lane desires that the outfall remain in a north-south alignment to facilitate public improvements in the area.

The City of Glendale requires that the outfall be sized to satisfy "minor storm" (10 year) requirements for Bell Road improvements including keeping the 10 year hydraulic grade line of the outfall below a future tramway underpass of Bell Road which is adjacent to the outfall.

BACKGROUND

The Bell Road and 79th Avenue storm drain outfall was originally designed by Donohue & Associates, Inc. and documented in their Final Drainage Report, Bell Road Project, Section 6 prepared for the Maricopa County Highway Department dated December 28, 1990.

This supplement creates a new alignment through the City of Peoria portion of the outfall and resizes the pipes at the request of the upstream City of Glendale portion.

This supplement also incorporates revised Skunk Creek flow data provided by the Maricopa County Flood Control department. This revised data lowers the water surface elevation of Skunk Creek considerably below elevations used by the Donohue Report.

SCOPE

The Bell Road and 79th Avenue storm drain outfall serves a drainage area North of Bell Road bounded by 75th and 79th Avenues and St. John Road, this area is the Mall and Associated Commercial (A.C.) portion of the Arrowhead Towne Center Project. This study collects all of the Mall area without retention and establishes runoff limits for the A.C. parcels.

The outfall collects all the Bell Road storm drains per the Donohue Report without revision.

To the South, the outfall collects the North Valley Power Center project and portion of Paradise Lane - all without onsite retention. The remainder of the drainage area between Bell Road and Skunk Creek is subject to the City of Peoria drainage requirements and is not included in the allowable drainage area of this outfall.

RECOMMENDATIONS

The Mall onsite storm drain system as detailed in the hydraulic report, included herein, collects all roof drains underground and all parking lots and drives by direct inlets without retention. The design shown keeps the 100 year 30 minute water surface lower than 18 inches below finish floor elevation with less than 8 inches of inlet ponding using a 100 per cent safety factor.

The A.C. Parcel North of the Mall is not permitted to drain directly into the system and will be subject to City of Glendale requirements. The balance of the A.C. parcels are permitted limited direct discharge to the system. Subject to specific development plans, it is assumed herein that the general runoff coefficient for those parcels will be 0.80. The storm drain is sized for one half that assumed runoff. This restriction is made by reducing their runoff coefficient to 0.40. Use of this technique to calculate restricted runoff is not intended to be an end in itself. Future land use may permit shifting runoff from one parcel to another and should be permitted if agreeable to all parties and such a shift meets the hydraulic criteria of this report.

Parcels with restricted drainage to this outfall system may drain metered discharge to the system after a storm subject to appropriate governmental approvals.

The Skunk Creek termination of the outfall has a peak discharge velocity of 8.4 feet per second. Peak velocities in the creek itself are about 6.3 feet per second for a 100 year storm. Minor replacement of channel bottom with loose dump rip-rap is recommended as is a pedestrian trash rack.

The alignment of the outfall South of Paradise Lane was previously curved to the West to gain the hydraulic advantage of a channel drop-structure. The curve adds approximately 610 feet of pipe to the outfall. This report shows that with the revised Skunk Creek flow data and more detailed analysis of flow patterns North of Bell Road the shorter straight North-South alignment to Skunk Creek may be used and is recommended.

DESIGN CRITERIA

The hydraulic grade line (water surface elevation) for the onsite Mall storm drain can not exceed 1206.0 adjacent to lower level and 1223.5 adjacent to the upper level of the Mall building for a 100 year 30 minute storm.

Inlet ponding cannot exceed 8 inches above the grate for a 100 year 10 minute storm.

The 10 year storm hydraulic grade line of the outfall may not exceed the floor of the proposed Bell Road tramway underpass, assumed to be 1188.5.

Rainfall data is per City of Phoenix Rainfall intensity-duration-frequency chart revised June 1975.

METHODOLOGY

All computations were made using a Lotus 1-2-3 for Windows spreadsheet broken into three parts: 1.) outfall; 2.) Ring Road mains North of Bell; and 3.) Mall onsite storm drain. Runoff characteristics of the Bell Road and Paradise Lane storm drains and the North Valley Power Center storm drains were taken from those projects without revision.

Flow computations use the Manning equation from round pipe:

$$Q = \frac{1.486}{n} R^{2/3} S^{1/2}$$

where n = 0.012 except that the outfall uses n = 0.013 per the City of Peoria's request.

Tailwater elevations provided by the Maricopa County Flood Control were lower than the average of critical depth plus pipe diameter which was used for tailwater elevation control.

All turns and structures were assumed to add 0.1 foot minor head loss except the mall ring road structure will uses a culvert headwater nomograph from the Bureau of Public Roads.

The project outfall is continuous pipe due to its large diameter. Minor losses are per King's Handbook tables except for an arbitrary loss at the last length to cancel the draw down at discharge.

Partially full pipes are either free flowing and use traditional relative flow graphs for flow depth and velocity or subject to down-stream head restraint where depth is not a function of flow and graphs are used for area only with velocity being a separate calculation. The inlet head/crown tables in the summaries generally indicate partially full pipes (negative numbers), however the particular method of solution is not shown.

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
1											
2		**MALL, NVPC @ AC'S 50%**									
3		**NORTH VALLEY DEVELOPMENT "MALL & ADJACENT PARCELS with the POWER CENTER"**									
4	FILE:	**STRAIGHT.WK3**		**ARROWHEAD TOWNE CENTER**							
5				*****FINAL*****						RAIN	FLOW
6	PIPE			DRAINAGE	AREA 'A'	RUNOFF	INLET	TOTAL	Tc	IN/HR	'Q'
7	LINE No.	INLET	OUTLET	AREA	'ACRES	'C'	'CA'	'CA'	(min.)	100 YR	C.F.S.
8		STRAIGHT OUTFALL TO SKUNK CREEK									
9		IMPROVEMENT DISTRICT NO. 57									
10											
11	P-160	MH-45	SKUNKCREEK		N.A.	N.A.	N.A.	155.66	55.85	2.25	350.42
12	P-158	N.A.	MH-45	PARADISE LN	1.92	0.85	1.63	155.66	55.28	2.28	350.42
13	P-157	TEE	MH-46	NVPC SOUTH	28.64	0.80	22.91	154.03	55.20	2.28	350.42
14	P-156	MH-47	TEE	NVPC NORTH	24.84	0.80	19.87	131.12	53.98	2.30	301.57
15	P-155	TEE	TEE	BELL RD WEST	N.A.	N.A.	N.A.	111.25	53.35	2.33	258.64
16	P-154	TEE	TEE	BELL RD EAST	10.49	0.85	8.92	111.25	52.85	2.33	258.64
17		TEE	MH-48		N.A.	N.A.	N.A.	102.33	52.31	2.35	240.47
18		MH-48	PLUG		N.A.	N.A.	N.A.	102.33	52.00	2.35	240.47
19											
20		The above Pipe information is the limits of the Improvment District No. 57									
21											
22		ARROWHEAD TOWNE CENTER OUTFALL									
23	P-145	TEE146A	PLG154		N.A.	N.A.	N.A.	102.33	51.87	2.35	240.47
24	P-146A	CB-146A	TEE146A	DA#90	0.06	0.85	0.05	0.05	30.00	3.40	0.17
25	P-145	TEE146	TEE146A		N.A.	N.A.	N.A.	102.28	51.86	2.35	240.35
26	P-146	CB-146	TEE146	DA#89	0.05	0.85	0.04	0.04	30.00	.3.40	0.14
27											
28		ARROWHEAD TOWNE CENTER RING ROAD TRUNK LINE									

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
29				EAST 1/2 MALL							
30	P-145	STR145	TEE146	DA#88	41.62	1.00	41.62	102.24	51.85	2.35	240.25
31	P-144	CB-144	STR145	DA#87	0.53	0.85	0.45	0.45	30.00	3.40	1.53
32	P-140	TEE143	STR145		N.A.	N.A.	N.A.	60.16	51.57	2.35	141.38
33	P-142	CB-142	TEE143	DA#86	0.17	0.85	0.14	0.37	30.18	3.40	1.27
34	P-141	CB-141	CB-142	DA#85	0.27	0.85	0.23	0.23	30.00	3.40	0.78
35	P-140	MH-140	TEE143		N.A.	N.A.	N.A.	59.79	51.40	2.38	142.00
36	P-139	PLUG-139	MH-140		N.A.	N.A.	N.A.	3.21	30.87	3.34	10.73
37	P-136	TEE216	MH-140		N.A.	N.A.	N.A.	56.58	51.19	2.38	134.37
38	P-216	PLUG-216	TEE216	AC #11	4.31	0.40	1.72	1.72	30.00	3.40	5.86
39	P-136	MH-136	TEE216		N.A.	N.A.	N.A.	54.85	50.53	2.38	130.27
40	P-134	PLUG-134	MH-136		N.A.	N.A.	N.A.	3.19	32.93	3.22	10.26
41	P-135	CB-135	MH-136	DA#84	0.22	0.85	0.19	0.19	30.00	3.40	0.64
42	P-126	TEE215	MH-136		N.A.	N.A.	N.A.	51.48	50.12	2.40	123.55
43	P-215	PLUG-215	TEE215	AC #11	4.32	0.40	1.73	1.73	30.00	3.40	5.88
44	P-126	MH-126	TEE215		N.A.	N.A.	N.A.	49.75	49.31	2.44	121.39
45	P-125	CB-125	MH-126	DA#83	5.24	0.85	4.45	4.45	30.00	3.40	15.14
46	P-124	MH-124	MH-126		N.A.	N.A.	N.A.	45.30	48.31	2.48	112.34
47	P-214	PLUG-214	MH-124	AC #12	5.23	0.40	2.09	2.09	30.00	3.40	7.11
48	P-123	PLUG-123	MH-124		N.A.	N.A.	N.A.	4.01	42.74	2.68	10.74
49	P-102	TEE114	MH-124		N.A.	N.A.	N.A.	39.20	47.93	2.48	97.21
50	P-113	PLUG-113	TEE114		N.A.	N.A.	N.A.	7.36	36.32	3.04	22.38
51	P-102	TEE105	TEE114		N.A.	N.A.	N.A.	31.84	47.85	2.48	78.95
52	P-103	CB-103	TEE105	DA#82	0.09	0.85	0.08	0.08	30.00	3.40	0.26
53	P-104	CB-104	TEE105	DA#79	0.49	0.85	0.42	0.42	30.00	3.40	1.42
54	P-102	MH-102	TEE105		N.A.	N.A.	N.A.	31.34	47.45	2.52	78.99
55	P-100	CB-100	MH-102	DA#81	0.50	0.85	0.43	0.43	30.00	3.40	1.45
56	P-101	CB-101	MH-102	DA#79	1.75	0.85	1.49	1.49	30.00	3.40	5.06

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
57	P-96	TEE213	MH-102		N.A.	N.A.	N.A.	29.43	47.15	2.52	74.17
58	P-213	PLUG-213	TEE213	AC #12	5.24	0.40	2.10	2.10	30.00	3.40	7.13
59	P-96	TEE99	TEE213		N.A.	N.A.	N.A.	27.34	47.02	2.52	68.88
60	P-98	CB-98	TEE99	DA#80	0.33	0.85	0.28	0.28	30.00	3.40	0.95
61	P-97	CB-97	TEE99	DA#79	1.75	0.85	1.49	1.49	30.00	3.40	5.06
62	P-96	MH-96	TEE99		N.A.	N.A.	N.A.	25.57	46.56	2.52	64.43
63	P-95	TEE212	MH-96		N.A.	N.A.	N.A.	25.57	45.90	2.56	65.45
64	P-212	PLUG-212	TEE212	AC #12	5.24	0.40	2.10	2.10	30.00	3.40	7.13
65	P-95	MH-95	TEE212		N.A.	N.A.	N.A.	23.47	45.43	2.60	61.02
66	P-94	CB-94	MH-95	DA#78	0.30	0.85	0.26	0.26	30.00	3.40	0.87
67	P-93	CB-93	MH-95	DA#77	0.43	0.85	0.37	0.75	30.73	3.34	2.50
68	P-92	CB-92	CB-93	DA#76	0.34	0.85	0.29	0.38	30.35	3.40	1.30
69	P-91	CB-91	CB-92	DA#75	0.11	0.85	0.09	0.09	30.00	3.40	0.32
70	P-90	TEE211	MH-95		N.A.	N.A.	N.A.	22.47	44.23	2.64	59.32
71	P-211	PLUG-211	TEE211	AC #13	1.81	0.40	0.72	0.72	30.00	3.40	2.46
72	P-90	MH-90	TEE211		N.A.	N.A.	N.A.	21.74	43.81	2.64	57.40
73	P-88	CB-88	MH-90	DA#74	0.19	0.85	0.16	0.46	30.00	3.40	1.56
74	P-89	CB-89	MH-90	DA#73	0.35	0.85	0.30	0.30	30.00	3.40	1.01
75	P-87	TEE210	MH-90		N.A.	N.A.	N.A.	21.29	43.67	2.64	56.19
76	P-210	PLUG-210	TEE210	AC #13	1.81	0.40	0.72	0.72	30.00	3.40	2.46
77	P-87	MH-87	TEE210		N.A.	N.A.	N.A.	20.56	42.80	2.68	55.10
78	P-86	CB-86	MH-87	DA#72	0.12	0.85	0.10	0.26	30.35	3.40	0.90
79	P-85	CB-85	CB-86	DA#71	0.19	0.85	0.16	0.16	30.00	3.40	0.55
80	P-84	MH-84	MH-87		N.A.	N.A.	N.A.	20.30	41.75	2.72	55.21
81	P-209	PLUG-209	MH-84	AC #14	2.61	0.40	1.04	1.04	30.00	3.40	3.55
82	P-80	MH-80	MH-84		N.A.	N.A.	N.A.	19.25	41.10	2.76	53.14
83	P-83	PLUG-83C	MH-80		N.A.	N.A.	N.A.	1.31	31.27	3.34	4.36
84	P-79	CB-79	MH-80	DA#70	1.66	0.85	1.41	1.41	30.00	3.40	4.80

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
85	P-78	TEE208	MH-80		N.A.	N.A.	N.A.	16.54	40.92	2.76	45.64
86	P-208	PLUG-208	TEE208	AC #14	2.62	0.40	1.05	1.05	30.00	3.40	3.56
87	P-78	MH-78	TEE208		N.A.	N.A.	N.A.	15.49	40.37	2.80	43.37
88	P-77	CB-77	MH-78	DA#69	1.33	0.85	1.13	1.13	30.00	3.40	3.84
89	P-76	TEE207	MH-78		N.A.	N.A.	N.A.	14.36	39.94	2.80	40.21
90	P-207	PLUG-207	TEE207	AC #7E	4.63	0.40	1.85	1.85	30.00	3.40	6.30
91	P-76	MH-76	TEE207		N.A.	N.A.	N.A.	12.51	39.50	2.80	35.02
92	P-75	CB-75	MH-76	DA#68	1.18	0.85	1.00	2.79	30.46	3.40	9.48
93	P-74	CB-74	CB-75	DA#67	1.90	0.85	1.62	1.79	30.18	3.40	6.07
94	P-73	CB-73	CB-74	DA#66	0.20	0.85	0.17	0.17	30.00	3.40	0.58
95	P-72	MH-72	MH-76		N.A.	N.A.	N.A.	9.72	37.98	2.92	28.38
96	P-71	CB-71	MH-72	DA#65	1.19	0.85	1.01	1.19	30.27	3.40	4.05
97	P-70	CB-70	CB-71	DA#64	0.21	0.85	0.18	0.18	30.00	3.40	0.61
98	P-69	TEE206	MH-72		N.A.	N.A.	N.A.	8.53	37.37	2.98	25.42
99	P-206	PLUG-206	TEE206	AC #7W	13.12	0.10	1.31	1.31	30.00	3.40	4.46
100	P-69	MH-69	TEE206		N.A.	N.A.	N.A.	7.22	36.77	2.98	21.51
101	P-68	CB-68	MH-69	DA#63	1.67	0.85	1.42	1.42	30.00	3.40	4.83
102	P-67	MH-67	MH-69		N.A.	N.A.	N.A.	5.80	36.29	3.04	17.62
103	P-66	PLUG-66	MH-67		N.A.	N.A.	N.A.	5.80	36.29	3.04	17.62
104											
105				WEST 1/2 MALL							
106	P-56	TEE59	STR145		N.A.	N.A.	N.A.	41.62	53.93	2.30	95.73
107	P-58	CB-58	TEE59	DA#62	0.76	0.85	0.65	0.65	30.00	3.40	2.20
108	P-57	CB-57	TEE59	DA#61	0.27	0.85	0.23	0.23	30.00	3.40	0.78
109	P-56	MH-56	TEE59		N.A.	N.A.	N.A.	40.75	53.70	2.30	93.72
110	P-55	PLUG-55	MH-56		N.A.	N.A.	N.A.	11.47	53.70	2.30	26.38
111	P-40	TEE200	MH-56		N.A.	N.A.	N.A.	29.28	45.06	2.60	76.12
112	P-200	PLUG-200	TEE200	AC #11	4.75	0.40	1.90	1.90	30.00	3.40	6.46

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
113	P-40	MH-40	TEE200		N.A.	N.A.	N.A.	27.38	44.21	2.64	72.27
114	P-39	CB-39	MH-40	DA#60	0.76	0.85	0.65	0.65	30.00	3.40	2.20
115	P-38	CB-38	MH-40	DA#59	0.43	0.85	0.37	0.37	30.00	3.40	1.24
116	P-37	TEE201	MH-40		N.A.	N.A.	N.A.	26.37	43.36	2.68	70.66
117	P-201	PLUG-201	TEE201	AC #10	2.12	0.40	0.85	0.85	30.00	3.40	2.88
118	P-37	MH-37	TEE201		N.A.	N.A.	N.A.	25.52	43.30	2.68	68.39
119	P-36	TEE202	MH-37		N.A.	N.A.	N.A.	25.52	43.05	2.68	68.39
120	P-202	PLUG-202	TEE202	AC #10	2.13	0.40	0.85	0.85	30.00	3.40	2.90
121	P-36	MH-36	TEE202		N.A.	N.A.	N.A.	24.67	42.24	2.72	67.09
122	P-35	CB-35	MH-36	DA#58	0.15	0.85	0.13	0.26	30.32	3.40	0.87
123	P-34	CB-34	CB-35	DA#57	0.15	0.85	0.13	0.13	30.00	3.40	0.43
124	P-33	MH-33	MH-36		N.A.	N.A.	N.A.	24.41	41.85	2.72	66.40
125	P-32	CB-32	MH-33	DA#56	0.30	0.85	0.26	0.26	30.00	3.40	0.87
126	P-31	CB-31	MH-33	DA#55	0.26	0.85	0.22	0.22	30.00	3.40	0.75
127	P-30	TEE203	MH-33		N.A.	N.A.	N.A.	23.93	41.63	2.72	65.10
128	P-203	PLUG-203	TEE203	AC #9	1.86	0.40	0.74	0.74	30.00	3.40	2.53
129	P-30	TEE204	TEE203		N.A.	N.A.	N.A.	23.19	41.06	2.76	64.00
130	P-204	PLUG-204	TEE204	AC #9	1.85	0.40	0.74	0.74	30.00	3.40	2.52
131	P-30	MH-30	TEE204		N.A.	N.A.	N.A.	22.45	40.93	2.76	61.96
132	P-29	PLUG-29	MH-30		N.A.	N.A.	N.A.	2.67	32.34	3.28	8.75
133	P-25	CB-25	MH-30	DA#54	2.02	0.85	1.72	1.72	30.00	3.40	5.84
134	P-24	TEE205	MH-30		N.A.	N.A.	N.A.	18.07	40.26	2.80	50.59
135	P-205	PLUG-205	TEE205	AC #9	3.71	0.40	1.48	1.48	30.00	3.40	5.05
136	P-24	MH-24	TEE205		N.A.	N.A.	N.A.	16.58	40.12	2.80	46.43
137	P-23	CB-23	MH-24	DA#53	2.63	0.85	2.24	2.24	30.00	3.40	7.60
138	P-22	MH-22	MH-24		N.A.	N.A.	N.A.	14.35	39.01	2.86	41.03
139	P-21	CB-21	MH-22	DA#52	0.16	0.85	0.14	1.17	30.47	3.40	3.99
140	P-20	CB-20	CB-21	DA#51	0.17	0.85	0.14	1.04	30.27	3.40	3.53

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
141	P-19	CB-19	CB-20	DA#50	1.05	0.85	0.89	0.89	30.00	3.40	3.03
142	P-18	TEE217	MH-22		N.A.	N.A.	N.A.	13.17	38.31	2.92	38.47
143	P-217	PLUG-217	TEE217	AC #7W	6.56	0.10	0.66	0.66	30.00	3.40	2.23
144	P-18	MH-18	TEE217		N.A.	N.A.	N.A.	12.52	37.91	2.92	36.55
145	P-17	CB-17	MH-18	DA#49	2.14	0.85	1.82	1.82	30.00	3.40	6.18
146	P-16	MH-16	MH-18		N.A.	N.A.	N.A.	10.70	37.12	2.98	31.88
147	P-15A	CB-15A	MH-16	DA#48	0.22	0.85	0.19	0.19	30.00	3.40	0.64
148	P-15	CB-15	MH-16	DA#47	0.19	0.85	0.16	0.16	30.00	3.40	0.55
149	P-13	PLUG-13	MH-16		N.A.	N.A.	N.A.	9.69	37.01	2.98	28.89
150	P-14A	MH-14A	MH-16		N.A.	N.A.	N.A.	0.66	30.65	3.34	2.19
151	P-14	MH-14	MH-14A		N.A.	N.A.	N.A.	0.66	30.30	3.40	2.23
152	P-12	PLUG-12	MH-14	AC #7W	6.57	0.10	0.66	0.66	30.00	3.40	2.23
153											
154											
155											
156		The above Pipe information is the limits of the Ring Road Submittal of December, 1991									
157											
158		ARROWHEAD TOWNE CENTER ONSITE SYSTEM									
159		EAST 1/2 MALL		PENNEYS LL							
160	P-139	CB-139	PLUG-139	DA#46	0.48	0.85	0.41	3.21	30.66	3.34	10.73
161	P-138	CB-138	CB-139	DA#45	1.05	0.85	0.89	0.89	30.00	3.40	3.03
162	P-137	CB-137	CB-139	DA#44	2.25	0.85	1.91	1.91	30.00	3.40	6.50
163				PENNEYS-MERVYN'S UL							
164	P-134	MH-134	PLUG-134		N.A.	N.A.	N.A.	3.19	32.57	3.22	10.26
165	P-133	TEE-81	MH-134		N.A.	N.A.	N.A.	3.19	32.16	3.28	10.45
166	P-81	CB-81	TEE-81	DA#43	0.15	0.90	0.14	0.14	30.00	3.40	0.46
167	P-133	MH-133	TEE-81		N.A.	N.A.	N.A.	3.05	32.06	3.28	10.01
168	P-131	MH-131	MH-133		N.A.	N.A.	N.A.	3.05	31.72	3.28	10.01

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
169	P-26C	PLUG-26C	MH-131	NW1/4 STORE P	0.46	0.90	0.41	0.41	30.00	3.40	1.41
170	P-26	CB-26	MH-131	MALL DA#42	0.08	0.90	0.07	0.68	30.22	3.40	2.30
171	P-26A	ELBO-26A	CB-26		N.A.	N.A.	N.A.	0.60	30.10	3.40	2.05
172	P-26B	PLUG-26B	ELBO-26A	MALL DA#41	0.67	0.90	0.60	0.60	30.00	3.40	2.05
173	P-130	TEE-130A	MH-131		N.A.	N.A.	N.A.	1.96	31.50	3.34	6.55
174	P-130A	PLUG-130	TEE-130A	MALL DA#40	0.49	0.90	0.44	0.44	30.00	3.40	1.50
175	P-130	MH-130	TEE-130A		N.A.	N.A.	N.A.	1.52	30.96	3.34	5.08
176	P-130B	PLUG-130	MH-130	MALL DA#39	0.33	0.90	0.30	0.30	30.00	3.40	1.01
177	P-128	TEE-128A	MH-130		N.A.	N.A.	N.A.	1.22	30.42	3.40	4.16
178	P-128A	CB-128A	TEE-128A	DA#38	0.06	0.90	0.05	0.47	30.07	3.40	1.59
179	P-11	PLUG-11	CB-128A	MALL DA#37	0.46	0.90	0.41	0.41	30.00	3.40	1.41
180	P-128	MH-128	TEE-128A		N.A.	N.A.	N.A.	0.76	30.16	3.40	2.57
181	P-128	MH-128B	MH-128		N.A.	N.A.	N.A.	0.76	30.08	3.40	2.57
182	P-128C	PLUG-128	MH-128B	NW1/4 STORE M	0.24	0.90	0.22	0.22	30.00	3.40	0.73
183	P-128B	PLUG-128	MH-128B	MALL DA#36	0.60	0.90	0.54	0.54	30.00	3.40	1.84
184				MERVYN'S- ROBINSONS LL							
185	P-123	MH-123	PLUG-123		N.A.	N.A.	N.A.	4.01	41.27	2.76	11.06
186	P-122	CB-122	MH-123	DA#35	0.35	0.85	0.30	0.30	30.00	3.40	1.01
187	P-121	CB-121	MH-123	DA#34	0.68	0.85	0.58	0.58	30.00	3.40	1.97
188	P-120	MH-120	MH-123		N.A.	N.A.	N.A.	3.13	40.82	2.76	8.64
189	P-119	SDRC-119	MH-120		N.A.	N.A.	N.A.	0.30	30.47	3.40	1.01
190	P-119	CB-119	SDRC-119A	DA#33	0.09	0.90	0.08	0.08	30.00	3.40	0.28
191	P-119A	PLUG-119	SDRC-119A	SW1/4 STORE M	0.24	0.90	0.22	0.22	30.00	3.40	0.73
192	P-118	SDRC-118	MH-120		N.A.	N.A.	N.A.	2.84	40.39	2.80	7.94
193	P-118A	PLUG-118	SDRC-118A	SE1/4 STORE M	0.24	0.90	0.22	0.22	30.00	3.40	0.73
194	P-118	MH-118	SDRC-118A		N.A.	N.A.	N.A.	2.62	40.17	2.80	7.33
195	P-117	MH-117	MH-118		N.A.	N.A.	N.A.	2.62	39.68	2.80	7.33
196	P-117C	MH-117A	MH-117		N.A.	N.A.	N.A.	1.05	30.53	3.34	3.52

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
197	P-117B	PLUG-117	MH-117A	NE1/4 STORE M	0.24	0.90	0.22	0.22	30.00	3.40	0.73
198	P-117A	PLUG-117	MH-117A	MALL & DA#32	0.93	0.90	0.84	0.84	30.00	3.40	2.85
199	P-116C	MH-116B	MH-117		N.A.	N.A.	N.A.	1.57	38.92	2.86	4.48
200	P-116B	PLUG-116	MH-116B	SE1/4 STORE R	0.58	0.90	0.52	0.52	30.00	3.40	1.77
201	P-116	SDRC-116	MH-116B		N.A.	N.A.	N.A.	1.04	35.25	3.10	3.24
202	P-116A	PLUG-116	SDRC-116A	SE1/4 STORE R	0.58	0.90	0.52	0.52	30.00	3.40	1.77
203	P-116	MH-116	SDRC-116A		N.A.	N.A.	N.A.	0.52	34.43	3.16	1.65
204	P-115A	BEND115A	MH-116		N.A.	N.A.	N.A.	0.52	30.30	3.40	1.77
205	P-115	PLUG-115	BEND115A	NW1/4 STORE R	0.58	0.90	0.52	0.52	30.00	3.40	1.77
206				MERVYN'S-ROBINSONS LL							
207	P-113	CB-113	PLUG-113	DA#31	1.17	0.85	0.99	7.36	35.86	3.04	22.38
208	P-112	CB-112	CB-113	DA#30	0.92	0.85	0.78	0.78	30.00	3.40	2.66
209	P-111	CB-111	CB-113	DA#29	0.91	0.85	0.77	5.58	34.88	3.10	17.31
210	P-110	CB-110	CB-111	DA#28	1.41	0.85	1.20	4.81	34.29	3.16	15.20
211	P-109	CB-109	CB-110	DA#27	1.22	0.85	1.04	3.61	33.45	3.22	11.63
212	P-108	CB-108	CB-109	DA#26	1.07	0.85	0.91	2.58	32.40	3.28	8.45
213	P-107A	CB-107A	CB-108	DA#25A	0.35	0.85	0.30	1.67	31.34	3.34	5.56
214	P-107	CB-107	CB-107A	DA#25	0.35	0.85	0.30	1.37	30.96	3.34	4.57
215	P-106	CB-106	CB-107	DA#24	1.26	0.85	1.07	1.07	30.00	3.40	3.64
216				FUTURE-ROBINSONS UL							
217	P-83C	MH-83C	PLUG-83C		N.A.	N.A.	N.A.	1.31	31.27	3.34	4.36
218	P-83B	MH-83B	MH-83C		N.A.	N.A.	N.A.	1.31	31.10	3.34	4.36
219	P-83	TEE-83A	MH-83B		N.A.	N.A.	N.A.	1.31	30.98	3.34	4.36
220	P-83A	CB-83A	TEE-83A	DA#23	0.09	0.90	0.08	0.08	30.00	3.40	0.28
221	P-83	MH-83	TEE-83A		N.A.	N.A.	N.A.	1.22	30.78	3.34	4.09
222	P-82	SDRC-82A	MH-83		N.A.	N.A.	N.A.	1.22	30.23	3.40	4.16
223	P-82A	PLUG-82A	SDRC-82A	NW1/4 STORE R	0.58	0.90	0.52	0.52	30.00	3.40	1.77
224	P-82	MH-82	SDRC-82A		N.A.	N.A.	N.A.	0.70	30.14	3.40	2.39

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
225	P-82D	PLUG-82	MH-82	MALL& DA#22	0.78	0.90	0.70	0.70	30.00	3.40	2.39
226				FUTURE STORE LL							
227	P-66	MH-66	PLUG-66		N.A.	N.A.	N.A.	5.80	34.25	3.16	18.32
228	P-65	CB-65	MH-66	DA#21	1.07	0.85	0.91	5.80	34.09	3.16	18.32
229	P-64	CB-64	CB-65	DA#20	1.07	0.85	0.91	4.89	33.56	3.16	15.45
230	P-63	CB-63	CB-64	DA#19	2.15	0.85	1.83	3.98	32.83	3.22	12.81
231	P-62	MH-62	CB-63		N.A.	N.A.	N.A.	2.15	31.91	3.28	7.06
232	P-61	MH-61	MH-62		N.A.	N.A.	N.A.	0.61	30.16	3.40	2.08
233	P-61A	PLUG-61A	MH-61	N1/2 STORE S	0.68	0.90	0.61	0.61	30.00	3.40	2.08
234	P-60	CB-60	MH-62	SW1/4 STORE S	0.34	0.90	0.31	1.54	30.97	3.34	5.14
235	P-59	CB-59	CB-60	DA #18	0.33	0.90	0.30	1.23	30.31	3.40	4.19
236	P-59B	CB-59B	CB-59	DA #18B	0.32	0.90	0.29	0.94	30.14	3.40	3.18
237	P-59A	PLUG-59A	CB-59B	MALL	0.72	0.90	0.65	0.65	30.00	3.40	2.20
238											
239											
240		WEST 1/2	MALL	PENNEYS-DILLARDS LL							
241	P-55	CB-55	PLUG-55	DA#17	1.37	0.85	1.16	11.47	53.29	2.33	26.67
242	P-41	CB-41	CB-55	DA#16	2.38	0.85	2.02	5.60	52.50	2.33	13.01
243	P-54	MH-54	CB-41		N.A.	N.A.	N.A.	3.57	51.36	2.38	8.49
244				PENNEYS LL							
245	P-53	MH-53	MH-54		N.A.	N.A.	N.A.	0.41	31.42	3.34	1.38
246	P-53B	BEND-53B	MH-53		N.A.	N.A.	N.A.	0.41	30.12	3.40	1.41
247	P-53A	PLUG-53A	BEND-53B	SE1/4 STORE P	0.46	0.90	0.41	0.41	30.00	3.40	1.41
248				DILLARDS-PENNEYS LL							
249	P-52	SDRC-52A	MH-54		N.A.	N.A.	N.A.	3.16	51.14	2.38	7.50
250	P-52A	PLUG-52A	SDRC-52A	W1/2 STORE P	0.92	0.90	0.83	0.83	30.00	3.40	2.82
251	P-52	MH-52	SDRC-52A		N.A.	N.A.	N.A.	2.33	50.78	2.38	5.54
252	P-51	CB-51	MH-52	DA#15	0.35	0.90	0.32	1.11	50.78	2.38	2.63

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
253	P-51A	PLUG-51	CB-51	MALL	0.88	0.90	0.79	0.79	30.00	3.40	2.69
254				DILLARDS LL							
255	P-49	SDRC-50	MH-52		N.A.	N.A.	N.A.	1.22	49.97	2.40	2.94
256	P-50	PLUG-50	SDRC-50	SE1/4 STORE D	0.61	0.90	0.55	0.55	30.00	3.40	1.87
257	P-49	MH-49	SDRC-50		N.A.	N.A.	N.A.	0.68	47.05	2.52	1.70
258	P-48	SDRC-48	MH-49		N.A.	N.A.	N.A.	0.68	46.17	2.56	1.73
259	P-48A	PLUG-48	SDRC-48	SW1/4 STORE D	0.61	0.90	0.55	0.55	30.00	3.40	1.87
260	P-48	MH-47	SDRC-48		N.A.	N.A.	N.A.	0.13	31.67	3.28	0.41
261	P-47	CB-47	MH-47	DA#14 DOCK	0.14	0.90	0.13	0.13	30.00	3.40	0.43
262				DILLARDS LL							
263	P-46	CB-46	CB-55	DA#13	1.02	0.85	0.87	4.71	32.17	3.28	15.45
264	P-45	CB-45	CB-46	DA#12	0.90	0.85	0.77	3.84	31.43	3.34	12.83
265	P-44	CB-44	CB-45	DA#11	1.36	0.85	1.16	3.08	30.61	3.34	10.28
266	P-43	CB-43	CB-44	DA#10	1.13	0.85	0.96	1.92	30.38	3.40	6.53
267	P-42	CB-42	CB-43	DA#9	1.13	0.85	0.96	0.96	30.00	3.40	3.27
268				WARDS-DILLARDS UL							
269	P-29	MH-29	PLUG-29		N.A.	N.A.	N.A.	2.67	31.78	3.28	8.75
270	P-28	SDRC-29A	MH-29		N.A.	N.A.	N.A.	2.67	31.50	3.28	8.75
271	P-29A	PLUG-29A	SDRC-29A	NW1/4STORE D	0.62	0.90	0.56	0.56	30.00	3.40	1.90
272	P-28	SDRC-28A	SDRC-29A		N.A.	N.A.	N.A.	2.11	30.92	3.34	7.04
273	P-28A	PLUG-28A	SDRC-28A	W1/2W&N1/4D	1.27	0.90	1.14	1.41	30.00	3.40	4.78
274	P-28	MH-28	SDRC-28A		N.A.	N.A.	N.A.	0.70	30.29	3.40	2.39
275	P-27	PLUG-27	MH-28	MALL & DA#8	0.78	0.90	0.70	0.70	30.00	3.40	2.39
276				WARDS LL							
277	P-09	TEE-13A	PLUG-13		N.A.	N.A.	N.A.	9.69	36.51	2.98	28.89
278	P-13A	CB-13A	TEE-13A	DA#7	0.31	0.85	0.26	0.26	30.00	3.40	0.90
279	P-09	TEE-10	TEE-13A		N.A.	N.A.	N.A.	9.43	35.33	3.10	29.23
280	P-10	CB-10	TEE-10	TBA & DA # 6	0.67	0.85	0.57	0.57	30.00	3.40	1.94

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
281	P-09	MH-09	TEE-10		N.A.	N.A.	N.A.	8.86	33.99	3.16	28.53
282	P-08	CB-08	MH-09	DA # 5	4.17	0.85	3.54	8.86	32.82	3.22	28.53
283	P-06	CB-06	CB-08	DA # 4	0.60	0.85	0.51	2.04	30.44	3.40	6.94
284	P-05	CB-05	CB-06	DA # 3	1.80	0.85	1.53	1.53	30.00	3.40	5.20
285	P-07	MH-07	CB-08		N.A.	N.A.	N.A.	3.28	32.19	3.28	10.75
286	P-04	MH-04	MH-07	1/3 CINEMA	0.30	0.90	0.27	1.24	31.53	3.28	4.07
287	P-04A	CB-04A	MH-04	MALL & DA # 2	1.08	0.90	0.97	0.97	30.00	3.40	3.30
288	P-03	MH-03	MH-07	2/3 CINEMA	0.60	0.90	0.54	2.03	31.77	3.28	6.67
289	P-01	PLUG-01	MH-03		N.A.	N.A.	N.A.	0.92	31.28	3.34	3.07
290	P-02	MH-02	MH-03	E1/2 STORE W	0.64	0.90	0.58	0.58	30.00	3.40	1.96
291	P-01	MH-01 DC	PLUG-01		N.A.	N.A.	N.A.	0.92	30.53	3.34	3.07
292	P-01A	P-01A DO	MH-01	MALL	0.65	0.90	0.59	0.59	30.00	3.40	1.99
293	P-01B	CB-01 DO	MH-01	DA # 1	0.37	0.90	0.33	0.33	30.00	3.40	1.13
294	END			END							
295											
296		The above Pipe information is the limits of the Arrowhead Mall Onsite storm drain system.									
297											
298		NOTES:									
299											
300		1. UPPER LEVEL FINISH FLOOR (UL) ELEV=1225.0 except DILLARDS =1225.083									
301		2. LOWER LEVEL FINISH FLOOR (LL) ELEV=1207.5 except DILLARDS =1207.583									
302		3.AC PARCELS (ASSOCIATED COMMERCIAL) DATA SHOWN IS MAXIMUM									
303		RUNOFF PERMITTED FROM FUTURE DEVELOPMENT.									

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
1											
2											
3											
4				***FINAL***						***-FINAL***	
5	PIPE		DIA.	PIPE	DEPTH	INLET	FLOW	INLET	30min\100yr	BASIN	10min\100yr
6	CAPACITY	Q/Qo	'Do'	LENGTH	D/Do	HEAD/	VELOCITY	RIM	RIM ELEV	INLET	INFLOW
7	'Qo'	%	IN.	FT	%	CROWN	ft/sec.	ELEV	-HGL ELEV	TYPE	DEPTH IN.
8	STRAIGHT OUTFALL TO SKUNK CREEK										
9	IMPROVEMENT DISTRICT NO. 57										
10											
11	188.76	186	96	822.5	79.22	-1.7	8.40	1197.84	11.85	NA	NA
12	132.20	265	84	314	112.12	0.8	9.11	1195.98	8.35	NA	NA
13	132.20	265	84	42	113.67	1.0	9.11	1195.98	8.22	NA	NA
14	132.20	228	84	574	128.68	2.0	7.84	1197.38	8.32	NA	NA
15	170.63	152	84	254	132.23	2.3	6.72	1203.25	13.76	NA	NA
16	170.63	152	84	202	135.91	2.5	6.72	1202.00	12.11	NA	NA
17	170.63	141	84	203	137.99	2.7	6.25	1203.25	13.07	NA	NA
18	89.69	268	66	183	193.20	5.1	10.12	1203.50	12.22	NA	NA
19											
20	The above Pipe information is the limits of the Improvment District No. 57										
21											
22											
23	612.92	39	66	216	42	-3.2	26.62	1202.50	12.35	NA	NA
24	41.59	0	15	23	5	-1.2	0.47	1202.50	2.69	GRATE	0.7
25	612.92	39	66	13	42	-3.2	26.61	1202.50	11.91	NA	NA
26	42.50	0	15	22	5	-1.2	0.39	1202.50	2.69	GRATE	0.6
27											
28	ARROWHEAD TOWNE CENTER RING ROAD TRUNK LINE										

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
29	EAST 1/2 MALL										
30	664.00	36	66	23	42.00	-3.2	26.60	1202.70	11.33	NA	NA
31	36.49	4	15	20	14.50	-1.1	20.81	1202.50	2.57	GRATE	2.9
32	162.73	87	66	99	122.76	1.3	5.95	1203.20	6.69	NA	NA
33	67.95	2	15	9	10.00	-1.1	17.27	1203.61	3.10	GRATE	1.3
34	7.00	11	15	48	23.00	-1.0	4.54	1203.61	2.46	GRATE	1.8
35	162.73	87	66	60	124.03	1.3	5.98	1204.53	7.83	NA	NA
36	11.38	94	18	8	88.67	-0.2	6.07	1204.00	9.72	NA	NA
37	115.07	117	66	72	126.32	1.4	5.66	1205.50	8.60	NA	NA
38	32.67	18	24	81	88.50	-0.2	1.87	1203.50	9.22	NA	NA
39	115.07	113	66	216	129.21	1.6	5.48	1208.80	11.52	NA	NA
40	22.75	45	18	24	47.00	-0.8	5.81	1209.00	13.18	NA	NA
41	15.44	4	15	39	14.50	-1.1	8.64	1208.80	3.07	GRATE	1.6
42	115.07	107	66	129	131.39	1.7	5.20	1208.26	10.73	NA	NA
43	67.94	9	24	64	19.60	-1.6	18.70	1207.00	9.64	NA	NA
44	115.07	105	66	249	133.68	1.9	5.11	1207.66	9.76	NA	NA
45	15.88	95	15	39	77.00	-0.3	12.34	1206.88	1.75	3X GRATE	7.5
46	115.07	98	66	284	135.34	1.9	4.73	1205.46	7.19	NA	NA
47	24.50	29	24	64	35.00	-1.3	2.26	1206.00	9.71	NA	NA
48	3.60	299	18	24	100.00	0.0	6.08	1205.50	9.66	NA	NA
49	171.65	57	60	111	145.29	2.3	4.95	1204.50	5.99	NA	NA
50	22.85	98	36	16	87.00	-0.4	3.17	1204.75	9.08	NA	NA
51	171.65	46	60	20	146.12	2.3	4.02	1204.35	5.73	NA	NA
52	63.65	0	15	9	39.20	-0.8	0.62	1204.15	2.26	2X GRATE	0.6
53	46.18	3	18	46	13.00	-1.3	13.36	1204.15	2.56	2X GRATE	1.9
54	109.29	72	60	96	142.52	2.1	4.02	1203.70	4.90	NA	NA
55	22.12	7	15	6	17.20	-1.0	11.77	1203.50	2.54	3X GRATE	1.6
56	15.88	32	15	39	38.00	-0.8	12.12	1203.50	2.28	3X GRATE	3.6

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
57	171.65	43	60	69	140.37	2.0	3.78	1204.08	5.13	NA	NA
58	24.50	29	24	68	35.00	-1.3	2.27	1205.00	9.89	NA	NA
59	89.24	77	60	27	142.15	2.1	3.51	1204.09	5.03	NA	NA
60	61.74	2	15	9	10.00	-1.1	12.96	1203.89	2.63	GRATE	2.1
61	27.92	18	15	44	29.40	-0.9	4.12	1203.89	2.38	2X GRATE	4.5
62	171.65	38	60	91	137.15	1.9	3.28	1204.46	5.25	NA	NA
63	89.24	73	60	131	137.94	1.9	3.33	1204.84	5.46	NA	NA
64	24.50	29	24	63	35.00	-1.3	2.27	1205.00	9.69	NA	NA
65	89.24	68	60	88	139.18	2.0	3.11	1205.55	6.03	NA	NA
66	22.12	4	15	16	13.00	-1.1	11.78	1205.15	2.59	GRATE	2.0
67	20.69	12	15	67	24.00	-0.9	14.54	1205.56	3.09	GRATE	2.5
68	4.95	26	15	80	35.00	-0.8	3.53	1205.85	2.84	GRATE	2.1
69	4.95	6	15	54	17.20	-1.0	2.59	1205.59	2.53	GRATE	1.0
70	89.24	66	60	217	138.76	1.9	3.02	1206.23	6.52	NA	NA
71	24.50	10	24	72	22.00	-1.6	0.78	1208.00	12.56	NA	NA
72	89.24	64	60	74	139.71	2.0	2.92	1206.54	6.69	NA	NA
73	22.12	7	15	5	18.40	-1.0	12.72	1206.33	2.52	GRATE	1.4
74	15.88	6	15	39	17.20	-1.0	8.24	1206.33	2.54	GRATE	2.2
75	67.38	83	54	30	146.14	2.1	3.53	1207.09	7.12	NA	NA
76	24.50	10	24	68	28.00	-1.4	0.78	1208.00	12.12	NA	NA
77	67.38	82	54	180	147.04	2.1	3.46	1207.99	7.80	NA	NA
78	24.29	4	15	75	13.00	-1.1	12.17	1207.79	3.39	GRATE	1.1
79	4.95	11	15	68	23.00	-1.0	3.19	1207.55	2.68	GRATE	1.4
80	67.38	82	54	220	147.66	2.1	3.47	1210.23	9.80	NA	NA
81	24.50	14	24	60	32.50	-1.3	1.13	1210.00	13.72	NA	NA
82	49.21	108	48	164	156.90	2.3	4.23	1212.52	11.79	NA	NA
83	13.11	33	15	45	38.00	-0.8	10.44	1212.00	12.74	NA	NA
84	15.88	30	15	39	38.00	-0.8	11.49	1212.47	2.28	2X GRATE	4.4

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
85	49.21	93	48	39	159.26	2.4	3.63	1211.38	10.52	NA	NA
86	24.50	15	24	68	49.00	-1.0	1.13	1211.00	13.85	NA	NA
87	49.21	88	48	115	160.97	2.4	3.45	1211.80	10.75	NA	NA
88	15.88	24	15	39	31.00	-0.9	12.53	1211.04	2.36	GRATE	3.8
89	49.21	82	48	82	162.79	2.5	3.20	1210.41	9.21	NA	NA
90	24.50	26	24	66	52.50	-0.9	2.00	1211.00	13.85	NA	NA
91	49.21	71	48	73	160.64	2.4	2.79	1210.27	9.08	NA	NA
92	7.00	135	15	33	100.00	0.0	7.72	1209.29	5.40	GRATE	3.5
93	13.41	45	15	83	47.00	-0.7	4.95	1208.90	2.62	GRATE	4.8
94	9.89	6	15	51	16.00	-1.1	4.71	1209.46	2.55	GRATE	1.1
95	49.21	58	48	206	159.60	2.4	2.26	1210.17	8.82	NA	NA
96	15.84	26	15	39	35.00	-0.8	10.98	1209.41	2.31	GRATE	3.5
97	5.11	12	15	58	23.00	-1.0	3.53	1209.47	2.21	GRATE	1.1
98	34.47	74	42	97	169.71	2.4	2.64	1210.21	8.70	NA	NA
99	24.50	18	24	63	23.50	-1.5	1.42	1211.00	13.58	NA	NA
100	34.47	62	42	80	171.37	2.5	2.24	1210.80	9.16	NA	NA
101	15.88	30	15	39	38.00	-0.8	11.56	1210.13	2.28	GRATE	4.4
102	34.47	51	42	53	172.91	2.6	1.83	1211.23	9.48	NA	NA
103	38.54	46	42	16	175.32	2.6	1.83	1210.00	8.14	NA	NA
104											
105	WEST 1/2 MALL										
106	106.53	90	54	94	100.00	2.0	6.02	1203.09	6.75	NA	NA
107	22.12	10	15	7	345.34	3.1	1.79	1202.50	6.05	GRATE	2.6
108	15.88	5	15	39	240.37	1.8	0.64	1202.50	6.06	GRATE	1.3
109	106.53	88	54	79	100.00	2.1	5.89	1203.44	6.85	NA	NA
110	31.42	84	30	24	100.00	2.2	5.37	1203.00	6.22	NA	NA
111	106.53	71	54	43	100.00	2.2	4.79	1203.83	7.08	NA	NA
112	24.50	26	24	69	100.00	2.9	2.06	1203.00	6.10	NA	NA

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
113	106.53	68	54	232	100.00	1.9	4.54	1204.53	7.42	NA	NA
114	22.12	10	15	6	20.80	-1.0	12.78	1204.33	2.49	GRATE	2.6
115	15.88	8	15	39	18.40	-1.0	10.13	1204.33	2.52	GRATE	1.8
116	67.38	105	54	226	100.00	2.1	4.44	1205.53	8.07	NA	NA
117	24.50	12	24	60	100.00	2.5	0.92	1206.00	8.43	NA	NA
118	67.38	101	54	15	100.00	2.2	4.30	1205.61	8.03	NA	NA
119	67.38	101	54	65	100.00	2.3	4.30	1205.89	8.14	NA	NA
120	7.00	41	15	68	100.00	3.3	2.36	1206.50	8.54	NA	NA
121	67.38	100	54	206	100.00	2.4	4.22	1206.66	8.61	NA	NA
122	4.95	18	15	75	29.00	-0.9	3.53	1206.94	2.77	GRATE	0.9
123	4.95	9	15	68	19.60	-1.0	3.53	1206.90	2.51	GRATE	0.9
124	77.82	85	48	123	100.00	1.6	5.28	1207.20	8.83	NA	NA
125	22.12	4	15	12	13.00	-1.1	11.78	1206.91	2.59	GRATE	1.4
126	15.88	5	15	39	14.50	-1.1	10.21	1206.91	2.57	GRATE	1.3
127	82.35	79	48	68	100.00	1.6	5.18	1207.91	9.32	NA	NA
128	57.63	4	24	64	14.50	-1.7	13.42	1209.50	11.23	NA	NA
129	82.35	78	48	175	100.00	1.5	5.09	1209.98	10.99	NA	NA
130	57.63	4	24	64	14.50	-1.7	13.35	1210.00	11.79	NA	NA
131	82.35	75	48	37	100.00	1.6	4.93	1210.41	11.26	NA	NA
132	11.06	79	15	24	65.00	-0.4	10.18	1211.00	4.59	NA	NA
133	15.68	37	15	38	100.00	-0.7	4.76	1209.66	2.22	GRATE	5.0
134	69.60	73	48	164	100.00	1.5	4.03	1211.11	11.69	NA	NA
135	56.23	9	24	68	19.60	-1.6	16.06	1211.00	12.14	NA	0.45
136	69.60	67	48	29	100.00	1.6	3.69	1211.22	11.67	NA	NA
137	15.88	48	15	39	100.00	-0.7	6.19	1210.44	2.13	GRATE	5.9
138	77.82	53	48	219	100.00	1.3	3.27	1212.08	12.28	NA	NA
139	21.00	19	15	73	100.00	-0.9	3.25	1212.01	2.96	GRATE	0.9
140	4.95	71	15	57	62.00	-0.5	4.63	1212.06	2.32	GRATE	1.0

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
141	4.95	61	15	58	56.00	-0.6	3.63	1211.75	1.79	GRATE	3.2
142	77.82	49	48	128	100.00	1.1	3.06	1212.60	12.62	NA	NA
143	54.35	4	24	74	14.50	-1.7	11.84	1213.00	13.24	NA	NA
144	77.82	47	48	91	126.68	1.1	3.77	1213.02	12.89	NA	NA
145	15.88	39	15	39	100.00	-0.7	5.04	1212.26	2.22	GRATE	5.2
146	76.24	42	48	177	120.42	0.8	3.77	1213.17	12.87	NA	NA
147	22.12	3	15	7	11.50	-1.1	8.64	1213.45	2.61	GRATE	1.1
148	6.91	8	15	39	18.40	-1.0	4.47	1213.03	2.52	GRATE	1.0
149	76.24	38	48	24	119.19	0.8	3.48	1213.70	13.29	NA	NA
150	5.57	39	18	89	42.00	-0.9	3.27	1213.56	13.74	NA	NA
151	5.57	40	18	222	18.85	-1.2	10.52	1214.53	14.52	NA	NA
152	5.57	40	18	51	45.00	-0.8	2.87	1214.57	13.95	NA	NA
153											
154											
155											
156	The above Pipe information is the limits of the Ring Road Submittal of December, 1991										
157											
158	ARROWHEAD TOWNE CENTER ONSITE SYSTEM										
159	EAST 1/2 MALL		PENNEYS LL								
160	11.38	94	18	77	82.99	-0.3	6.07	1203.50	8.54	GRATE	2.7
161	7.00	43	15	181	45.00	-0.7	2.47	1204.33	7.99	GRATE	4.5
162	7.00	93	15	210	64.64	-0.4	5.30	1203.50	6.62	2X GRATE	5.3
163			PENNEYS-MERVYN'S UL								
164	25.67	40	18	331	42.00	-0.9	15.27	1220.81	8.20	NA	NA
165	8.04	130	18	145	100.00	0.0	5.91	1223.66	9.46	NA	NA
166	8.57	5	15	75	16.00	-1.1	3.74	1220.95	6.80	GRATE	1.3
167	8.04	124	18	32	112.50	0.2	5.66	1223.64	9.09	NA	NA
168	8.04	124	18	117	140.49	0.6	5.66	1224.10	8.54	NA	NA

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
169	11.28	12	15	82	24.00	-0.9	8.19	1224.00	7.87	NA	NA
170	9.89	23	15	52	76.00	-0.3	2.34	1223.50	7.79	GRATE	0.8
171	7.34	28	15	40	35.00	-0.8	5.56	1224.00	8.38	NA	NA
172	7.00	29	15	32	35.00	-0.8	5.56	1224.00	8.06	NA	NA
173	8.04	81	18	50	134.88	0.5	3.71	1223.96	8.14	NA	NA
174	8.84	17	12	99	28.50	-0.7	9.55	1224.00	4.22	NA	NA
175	8.04	63	18	137	56.00	-0.7	4.23	1223.95	8.63	NA	NA
176	8.56	12	12	102	23.00	-0.8	9.18	1224.00	3.77	NA	NA
177	8.04	52	18	151	50.00	-0.8	4.71	1224.03	8.04	NA	NA
178	15.64	10	15	54	22.00	-1.0	9.26	1223.50	5.04	GRATE	0.7
179	6.12	23	12	32	31.00	-0.7	7.17	1224.00	4.44	NA	NA
180	8.04	32	18	66	38.00	-0.9	4.28	1224.03	7.89	NA	NA
181	7.55	34	12	47	38.00	-0.6	9.62	1221.60	3.35	NA	NA
182	7.90	9	12	33	20.80	-0.8	6.68	1224.50	5.04	NA	NA
183	7.55	24	12	36	41.00	-0.6	6.15	1225.00	5.34	NA	NA
184			MERVYN'S- ROBINSONS LL								
185	14.70	75	24	310	50.77	-1.0	3.52	1204.25	7.78	NA	NA
186	4.95	20	15	6	39.00	-0.8	2.42	1204.25	5.23	GRATE	2.2
187	4.95	40	15	48	50.00	-0.6	3.20	1204.25	4.89	GRATE	3.4
188	5.69	152	18	132	103.15	0.0	4.89	1204.99	7.66	NA	NA
189	7.00	14	15	4	108.64	0.1	0.82	1204.73	7.30	NA	NA
190	7.00	4	15	37	87.09	-0.2	0.22	1203.50	5.97	GRATE	0.9
191	10.49	7	15	17	86.19	-0.2	0.60	1206.00	8.46	NA	NA
192	5.69	140	18	115	127.95	0.4	4.49	1206.52	8.53	NA	NA
193	7.00	10	15	19	126.51	0.3	0.60	1206.00	7.91	NA	NA
194	5.69	129	18	55	140.68	0.6	4.15	1206.51	8.19	NA	NA
195	5.69	129	18	122	160.79	0.9	4.15	1206.57	7.64	NA	NA
196	7.00	50	15	82	131.92	0.4	2.87	1206.00	6.76	NA	NA

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
197	7.00	10	15	19	124.89	0.3	0.60	1206.00	6.66	NA	NA
198	7.00	41	15	19	127.23	0.3	2.32	1206.00	6.63	NA	NA
199	5.69	79	18	116	160.10	0.9	2.53	1206.51	7.30	NA	NA
200	12.12	15	15	26	119.06	0.2	1.45	1206.00	6.68	NA	NA
201	5.69	57	18	403	129.12	0.4	1.83	1206.62	6.87	NA	NA
202	7.00	25	15	26	123.48	0.3	1.45	1206.00	6.13	NA	NA
203	5.69	29	18	46	128.76	0.4	0.93	1206.72	6.86	NA	NA
204	5.69	31	18	249	97.97	-0.0	1.00	1206.68	6.66	NA	NA
205	3.50	51	15	26	93.70	-0.1	1.45	1206.00	5.86	NA	NA
206			MERVYN'S-ROBINSONS LL								
207	36.13	62	36	87	82.53	-0.5	3.17	1203.50	7.75	GRATE	4.9
208	3.50	76	15	294	41.23	-0.7	2.17	1203.80	7.52	GRATE	4.2
209	22.22	78	30	208	74.87	-0.6	3.53	1204.00	7.83	GRATE	4.1
210	12.25	124	24	169	84.98	-0.3	4.84	1203.94	7.02	GRATE	5.5
211	12.25	95	24	188	87.65	-0.2	3.70	1203.84	6.40	GRATE	5.0
212	12.25	69	24	169	81.57	-0.4	2.69	1204.00	6.26	GRATE	4.6
213	5.69	98	18	200	80.64	-0.3	3.15	1205.10	6.78	GRATE	2.2
214	5.69	80	18	59	83.82	-0.2	2.59	1205.18	6.66	GRATE	2.2
215	3.50	104	15	171	91.43	-0.1	2.97	1205.69	6.61	GRATE	5.1
216			FUTURE-ROBINSONS UL								
217	16.18	27	15	1	35.00	-0.8	11.83	1214.34	15.07	NA	NA
218	13.99	31	15	104	38.00	-0.8	10.44	1218.05	14.58	NA	NA
219	12.12	36	15	69	42.00	-0.7	9.34	1220.57	14.98	NA	NA
220	12.12	2	15	87	11.50	-1.1	3.74	1220.80	12.98	GRATE	0.9
221	12.12	34	15	115	38.00	-0.8	9.79	1223.41	14.42	NA	NA
222	11.06	38	15	295	42.00	-0.7	8.92	1223.00	6.59	NA	NA
223	12.12	15	15	29	26.00	-0.9	7.23	1223.00	5.92	NA	NA
224	11.06	22	15	45	31.00	-0.9	7.78	1223.00	5.60	NA	NA

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
225	11.06	22	15	64	31.00	-0.9	7.78	1223.00	4.00	NA	NA
226			FUTURE STORE LL								
227	47.26	39	42	233	164.63	2.3	1.90	1204.91	2.99	NA	NA
228	35.40	52	36	26	177.21	2.3	2.59	1204.50	2.46	2X GRATE	3.3
229	21.77	71	30	100	191.89	2.3	3.15	1204.50	2.24	2X GRATE	3.3
230	21.77	59	30	113	188.80	2.2	2.61	1204.50	2.05	2X GRATE	5.2
231	12.00	59	24	125	206.18	2.1	2.25	1208.62	5.96	NA	NA
232	3.43	61	15	137	261.28	2.0	1.70	1206.43	3.55	NA	NA
233	3.43	61	15	16	259.34	2.0	1.70	1206.00	3.01	NA	NA
234	5.57	92	18	163	271.00	2.6	2.91	1205.00	1.91	GRATE	2.2
235	5.57	75	18	94	271.12	2.6	2.37	1204.00	0.68	GRATE	2.2
236	3.43	93	15	27	322.62	2.8	2.59	1204.00	0.53	GRATE	2.1
237	3.43	64	15	15	328.93	2.9	1.80	1204.00	0.41	NA	NA
238											
239											
240	WEST 1/2 MALL		PENNEYS-DILLARDS LL								
241	21.77	123	30	134	197.53	2.4	5.43	1202.90	5.54	2X GRATE	3.8
242	12.00	108	24	196	231.02	2.6	4.14	1202.90	4.89	2X GRATE	5.5
243	12.00	71	24	185	224.91	2.5	2.70	1206.70	8.37	NA	NA
244			PENNEYS LL								
245	3.43	40	15	179	279.07	2.2	1.13	1206.20	7.70	NA	NA
246	3.43	41	15	90	272.71	2.2	1.15	1206.00	7.36	NA	NA
247	8.57	16	15	8	271.37	2.1	1.15	1206.00	7.26	NA	NA
248			DILLARDS-PENNEYS LL								
249	5.57	135	18	57	280.61	2.7	4.25	1206.70	8.02	NA	NA
250	8.57	33	15	26	296.89	2.5	2.29	1206.00	7.18	NA	NA
251	5.57	99	18	68	287.12	2.8	3.13	1206.44	7.50	NA	NA
252	12.12	22	15	104	31.00	-0.9	8.57	1206.00	7.61	GRATE	2.3

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
253	22.88	12	15	35	23.00	-1.0	15.67	1206.00	3.96	NA	NA
254			DILLARDS LL								
255	3.43	86	15	116	326.63	2.8	2.39	1205.79	6.54	NA	NA
256	8.57	22	15	31	299.19	2.5	1.52	1206.00	6.63	NA	NA
257	3.43	50	15	243	299.46	2.5	1.39	1205.68	6.19	NA	NA
258	3.43	50	15	74	296.86	2.5	1.41	1205.78	6.14	NA	NA
259	8.57	22	15	31	269.43	2.1	1.52	1206.00	6.24	NA	NA
260	3.43	12	15	293	249.42	1.9	0.34	1206.00	6.25	NA	NA
261	3.43	12	15	35	250.81	1.9	0.35	1203.58	3.73	GRATE	1.2
262			DILLARDS LL								
263	12.00	129	24	305	250.89	3.0	4.92	1202.30	3.63	GRATE	4.4
264	12.00	107	24	181	258.98	3.2	4.08	1202.30	3.03	GRATE	4.1
265	12.00	86	24	162	258.79	3.2	3.27	1203.00	3.35	GRATE	5.4
266	45.84	14	24	143	26.00	-1.5	10.40	1203.00	2.98	GRATE	4.8
267	10.24	32	18	123	38.00	-0.9	5.43	1204.00	2.43	GRATE	4.8
268			WARDS-DILLARDS UL								
269	9.89	88	15	326	71.00	-0.4	9.63	1221.45	8.44	NA	NA
270	7.00	125	15	118	132.06	0.4	7.13	1223.26	8.31	NA	NA
271	8.57	22	15	31	104.68	0.1	1.55	1223.00	7.93	NA	NA
272	7.00	101	15	200	142.10	0.5	5.74	1223.27	6.19	NA	NA
273	8.57	56	15	31	124.49	0.3	3.90	1223.00	5.68	NA	NA
274	7.00	34	15	74	99.20	-0.0	1.96	1223.63	6.35	NA	NA
275	10.79	22	15	135	31.00	-0.9	7.78	1223.00	3.36	NA	NA
276			WARDS LL								
277	76.24	38	48	68	115.76	0.6	2.30	1213.18	12.75	NA	2.05
278	46.87	2	15	26	10.00	-1.1	12.17	1212.80	3.83	GRATE	2.0
279	76.24	38	48	165	107.31	0.3	2.33	1212.98	12.49	NA	NA
280	171.37	1	15	10	100.00	NA	NA	1212.95	2.63	GRATE	3.4

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
281	76.24	37	48	182	100.42	0.0	2.27	1208.83	8.18	NA	NA
282	76.24	37	48	169	91.70	-0.3	2.39	1204.50	3.69	3X GRATE	6.4
283	11.03	63	18	186	56.00	-0.7	5.77	1206.10	3.08	2X GRATE	2.2
284	3.43	152	15	113	100.00	0.0	4.24	1205.70	1.96	3X GRATE	3.7
285	12.00	90	24	129	135.32	0.7	3.42	1206.56	5.40	NA	NA
286	3.43	119	15	225	100.00	0.0	3.32	1208.28	5.81	NA	NA
287	3.43	96	15	247	82.00	-0.2	2.69	1206.83	3.99	PED GRATE	1.1
288	5.57	120	18	95	187.00	1.3	3.78	1207.10	5.52	NA	NA
289	3.43	89	15	73	221.59	1.5	2.50	1204.00	2.18	NA	NA
290	3.43	57	15	200	196.53	1.2	1.60	1206.00	4.16	NA	NA
291	3.43	89	15	112	225.29	1.6	2.50	1203.50	1.36	NA	NA
292	3.43	58	15	52	226.66	1.6	1.62	1203.50	1.22	GRATE	3.4
293	3.43	33	15	15	230.72	1.6	0.92	1203.50	1.26	GRATE	2.3
294											
295											
296	The above Pipe information is the limits of the Arrowhead Mall Onsite storm drain system.										
297											
298	NOTES:										
299											
300	1. UPPER LEVEL FINISH FLOOR (UL) ELEV=1225.0 except DILLARDS =1225.083										
301	2. LOWER LEVEL FINISH FLOOR (LL) ELEV=1207.5 except DILLARDS =1207.583										
302	3.AC PARCELS (ASSOCIATED COMMERCIAL) DATA SHOWN IS MAXIMUM										
303	RUNOFF PERMITTED FROM FUTURE DEVELOPMENT.										

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
1												
2												
3												
4												
5	INLET	OUTLET	FRICTION	HEAD	MINOR	Tt		PIPE	INLET	OUTLET	PIPE	COVER
6	HGL	HGL	SLOPE	LOSS	LOSS	(L/V)	MANNING	SLOPE	INVERT	INVERT	CROWN	@ INLET
7	ELEV	ELEV	%	FT	FT	(min)	'n'	ft/ft	ELEV	ELEV	@ INLET	FT
8	STRAIGHT OUTFALL TO SKUNK CREEK											
9	IMPROVEMENT DISTRICT NO. 57											
10												
11	1185.99	1185.00	0.1476	1.21	0.00	1.63	0.013	0.0004	1179.65	1179.30	1187.65	9.94
12	1187.63	1186.69	0.3009	0.94	0.70	0.57	0.013	0.0004	1179.79	1179.65	1186.79	8.94
13	1187.76	1187.63	0.3009	0.13	0.00	0.08	0.013	0.0004	1179.80	1179.79	1186.80	8.93
14	1189.06	1187.78	0.2228	1.28	0.02	1.22	0.013	0.0004	1180.05	1179.80	1187.05	10.08
15	1189.49	1189.07	0.1639	0.42	0.01	0.63	0.013	0.0007	1180.23	1180.05	1187.23	15.77
16	1189.89	1189.56	0.1639	0.33	0.07	0.50	0.013	0.0007	1180.38	1180.23	1187.38	14.37
17	1190.18	1189.89	0.1417	0.29	0.00	0.54	0.013	0.0007	1180.52	1180.38	1187.52	15.48
18	1191.28	1190.34	0.5128	0.94	0.16	0.30	0.013	0.0007	1180.65	1180.52	1186.15	17.10
19												
20	The above Pipe information is the limits of the Improvment District No. 57											
21												
22												
23	1190.15	1192.38	0.5128	1.11	1.10	0.14	0.013	0.0333	1187.84	1180.65	1193.34	8.91
24	1199.81	1190.25	0.0006	0.00	0.10	0.81	0.012	0.3535	1199.75	1191.62	1201.00	1.25
25	1190.59	1190.15	0.5123	0.07	0.00	0.01	0.013	0.0333	1188.28	1187.84	1193.78	8.47
26	1199.81	1190.69	0.0004	0.00	0.10	0.94	0.012	0.3691	1199.75	1191.63	1201.00	1.25
27												
28	ARROWHEAD TOWNE CENTER RING ROAD TRUNK LINE											

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
29	EAST 1/2	MALL										
30	1191.37	1190.69	0.4361	0.10	0.10	0.01	0.012	0.0333	1189.06	1188.28	1194.56	7.89
31	1199.93	1196.15	0.0479	0.01	4.78	0.02	0.012	0.2720	1199.75	1194.31	1201.00	1.25
32	1196.51	1196.15	0.1510	0.15	4.78	0.28	0.012	0.0020	1189.76	1189.56	1195.26	7.69
33	1200.51	1196.61	0.0330	0.00	0.10	0.01	0.012	0.9433	1200.38	1191.89	1201.63	1.73
34	1201.15	1200.61	0.0124	0.01	0.10	0.18	0.012	0.0100	1200.86	1200.38	1202.11	1.25
35	1196.70	1196.61	0.1524	0.09	0.10	0.17	0.012	0.0020	1189.88	1189.76	1195.38	8.90
36	1194.28	1196.80	0.8894	0.07	0.10	0.02	0.012	0.0100	1192.95	1192.87	1194.45	9.30
37	1196.90	1196.80	0.1364	0.10	0.10	0.21	0.012	0.0010	1189.95	1189.88	1195.45	9.80
38	1194.28	1197.00	0.0572	0.05	0.10	0.72	0.012	0.0178	1192.51	1191.07	1194.51	8.74
39	1197.28	1197.00	0.1282	0.28	0.10	0.66	0.012	0.0010	1190.17	1189.95	1195.67	12.88
40	1195.83	1197.38	0.8128	0.20	0.10	0.07	0.012	0.0400	1195.12	1194.16	1196.62	12.13
41	1205.73	1203.83	0.0083	0.00	0.10	0.08	0.012	0.0487	1205.55	1203.65	1206.80	1.75
42	1197.53	1197.38	0.1153	0.15	0.10	0.41	0.012	0.0010	1190.30	1190.17	1195.80	12.21
43	1197.36	1197.63	0.0575	0.04	0.10	0.06	0.012	0.0769	1196.97	1192.05	1198.97	7.78
44	1197.90	1197.63	0.1113	0.28	0.10	0.81	0.012	0.0010	1190.55	1190.30	1196.05	11.36
45	1205.13	1203.12	4.6831	1.83	0.10	0.05	0.012	0.0515	1204.17	1202.16	1205.42	1.21
46	1198.27	1198.00	0.0954	0.27	0.10	1.00	0.012	0.0010	1190.83	1190.55	1196.33	8.88
47	1196.29	1198.37	0.0842	0.05	0.10	0.47	0.012	0.0100	1195.59	1194.95	1197.59	8.16
48	1195.84	1196.39	0.8908	0.21	0.10	0.07	0.012	0.0010	1194.34	1194.32	1195.84	9.41
49	1198.51	1198.37	0.1187	0.13	0.10	0.37	0.012	0.0037	1191.24	1190.83	1196.24	8.01
50	1195.67	1198.61	0.0959	0.02	0.10	0.08	0.012	0.0010	1193.06	1193.04	1196.06	8.44
51	1198.62	1198.61	0.0783	0.02	0.10	0.08	0.012	0.0037	1191.31	1191.24	1196.31	7.79
52	1201.89	1198.72	0.0014	0.00	0.10	0.24	0.012	0.8278	1201.40	1193.95	1202.65	1.25
53	1201.60	1201.99	0.0155	0.01	0.10	0.06	0.012	0.1648	1201.40	1193.82	1202.90	1.00
54	1198.80	1198.72	0.0784	0.08	0.10	0.40	0.012	0.0015	1191.67	1191.31	1196.67	6.78
55	1200.97	1200.37	0.0426	0.00	0.10	0.01	0.012	0.1000	1200.75	1200.15	1202.00	1.25
56	1201.23	1201.07	0.5223	0.20	0.10	0.05	0.012	0.0515	1200.75	1198.74	1202.00	1.25

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
57	1198.94	1198.90	0.0691	0.05	0.10	0.30	0.012	0.0037	1191.93	1191.67	1196.93	6.90
58	1195.11	1199.04	0.0846	0.06	0.10	0.50	0.012	0.0100	1194.41	1193.73	1196.41	8.34
59	1199.06	1199.04	0.0596	0.02	0.10	0.13	0.012	0.0010	1191.95	1191.93	1196.95	6.89
60	1201.27	1199.16	0.0186	0.00	0.10	0.01	0.012	0.7789	1201.14	1194.13	1202.39	1.25
61	1201.51	1201.37	0.5223	0.23	0.10	0.18	0.012	0.1593	1201.14	1194.13	1202.39	1.25
62	1199.21	1199.16	0.0521	0.05	0.10	0.46	0.012	0.0037	1192.35	1191.95	1197.35	6.86
63	1199.38	1199.31	0.0538	0.07	0.10	0.65	0.012	0.0010	1192.48	1192.35	1197.48	7.11
64	1195.31	1199.48	0.0846	0.05	0.10	0.46	0.012	0.0100	1194.61	1193.98	1196.61	8.14
65	1199.52	1199.48	0.0468	0.04	0.10	0.47	0.012	0.0010	1192.56	1192.48	1197.56	7.74
66	1202.56	1200.96	0.0154	0.00	0.10	0.02	0.012	0.1000	1202.40	1200.80	1203.65	1.25
67	1202.47	1202.66	0.1275	0.09	0.10	0.08	0.012	0.0875	1202.17	1196.31	1203.42	1.89
68	1203.01	1202.61	0.0345	0.03	0.10	0.38	0.012	0.0050	1202.57	1202.17	1203.82	1.78
69	1203.06	1202.79	0.0021	0.00	0.10	0.35	0.012	0.0050	1202.84	1202.57	1204.09	1.25
70	1199.71	1199.62	0.0442	0.10	0.10	1.20	0.012	0.0010	1192.78	1192.56	1197.78	8.20
71	1195.44	1199.81	0.0101	0.01	0.10	1.53	0.012	0.0100	1195.00	1194.28	1197.00	10.75
72	1199.85	1199.81	0.0414	0.03	0.10	0.42	0.012	0.0010	1192.86	1192.78	1197.86	8.43
73	1203.81	1203.31	0.0497	0.00	0.10	0.01	0.012	0.1000	1203.58	1203.08	1204.83	1.25
74	1203.80	1201.79	0.0209	0.01	0.10	0.08	0.012	0.0515	1203.58	1201.57	1204.83	1.25
75	1199.97	1199.95	0.0696	0.02	0.10	0.14	0.012	0.0010	1193.39	1193.36	1197.89	8.95
76	1195.88	1200.07	0.0101	0.01	0.10	1.45	0.012	0.0100	1195.32	1194.64	1197.32	10.43
77	1200.19	1200.07	0.0669	0.12	0.10	0.87	0.012	0.0010	1193.57	1193.39	1198.07	9.67
78	1204.40	1200.29	0.0164	0.01	0.10	0.10	0.012	0.1205	1204.24	1195.20	1205.49	2.05
79	1204.87	1204.50	0.0062	0.00	0.10	0.35	0.012	0.0050	1204.58	1204.24	1205.83	1.47
80	1200.43	1200.29	0.0672	0.15	0.10	1.06	0.012	0.0010	1193.79	1193.57	1198.29	11.69
81	1196.28	1200.53	0.0210	0.01	0.10	0.89	0.012	0.0100	1195.63	1195.03	1197.63	12.12
82	1200.73	1200.53	0.1166	0.19	0.10	0.65	0.012	0.0010	1194.45	1194.29	1198.45	13.82
83	1199.26	1200.83	0.3880	0.17	0.10	0.07	0.012	0.0351	1198.78	1197.20	1200.03	11.72
84	1210.20	1208.19	0.4700	0.18	0.10	0.06	0.012	0.0515	1209.72	1207.71	1210.97	1.25

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
85	1200.86	1200.83	0.0860	0.03	0.10	0.18	0.012	0.0010	1194.49	1194.45	1198.49	12.64
86	1197.15	1200.96	0.0211	0.01	0.10	1.00	0.012	0.0100	1196.17	1195.49	1198.17	12.58
87	1201.05	1200.96	0.0777	0.09	0.10	0.56	0.012	0.0010	1194.61	1194.49	1198.61	12.94
88	1208.68	1206.67	0.3017	0.12	0.10	0.05	0.012	0.0515	1208.29	1206.28	1209.54	1.25
89	1201.20	1201.15	0.0668	0.05	0.10	0.43	0.012	0.0010	1194.69	1194.61	1198.69	11.47
90	1197.15	1201.30	0.0660	0.04	0.10	0.55	0.012	0.0100	1196.10	1195.44	1198.10	12.65
91	1201.19	1201.15	0.0506	0.04	0.10	0.44	0.012	0.0010	1194.76	1194.69	1198.76	11.26
92	1203.89	1203.56	1.8349	0.61	0.10	0.07	0.012	0.0100	1202.64	1202.31	1203.89	5.15
93	1206.28	1203.99	0.7522	0.62	0.10	0.28	0.012	0.0367	1205.69	1202.64	1206.94	1.71
94	1206.91	1206.38	0.0068	0.00	0.10	0.18	0.012	0.0200	1206.71	1205.69	1207.96	1.25
95	1201.35	1201.29	0.0333	0.07	0.10	1.52	0.012	0.0010	1194.97	1194.76	1198.97	10.95
96	1207.10	1205.10	0.3343	0.13	0.10	0.06	0.012	0.0513	1206.66	1204.66	1207.91	1.25
97	1207.26	1207.20	0.0075	0.00	0.10	0.27	0.012	0.0053	1206.97	1206.66	1208.22	1.00
98	1201.51	1201.45	0.0544	0.05	0.10	0.61	0.012	0.0010	1195.57	1195.47	1199.07	10.89
99	1197.42	1201.61	0.0331	0.02	0.10	0.74	0.012	0.0100	1196.95	1196.32	1198.95	11.80
100	1201.64	1201.61	0.0389	0.03	0.10	0.60	0.012	0.0010	1195.64	1195.57	1199.14	11.41
101	1207.86	1205.85	0.4757	0.19	0.10	0.06	0.012	0.0515	1207.38	1205.37	1208.63	1.25
102	1201.75	1201.74	0.0261	0.01	0.10	0.48	0.012	0.0010	1195.70	1195.64	1199.20	11.78
103	1201.86	1201.85	0.0261	0.00	0.10	0.15	0.012	0.0013	1195.72	1195.70	1199.22	10.53
104												
105	WEST 1/2	MALL										
106	1196.34	1196.15	0.2019	0.19	0.00	0.26	0.012	0.0025	1189.80	1189.56	1194.30	8.54
107	1196.45	1196.44	0.0985	0.01	0.10	0.07	0.012	0.1000	1192.13	1191.43	1193.38	8.87
108	1196.44	1196.44	0.0124	0.00	0.10	1.02	0.012	0.0515	1193.44	1191.43	1194.69	7.56
109	1196.59	1196.44	0.1935	0.15	0.10	0.22	0.012	0.0025	1189.98	1189.80	1194.48	8.71
110	1196.78	1196.69	0.3525	0.08	0.10	0.07	0.012	0.0050	1192.10	1191.98	1194.60	8.15
111	1196.75	1196.69	0.1277	0.05	0.10	0.15	0.012	0.0025	1190.09	1189.98	1194.59	8.99
112	1196.90	1196.85	0.0695	0.05	0.10	0.56	0.012	0.0100	1192.04	1191.34	1194.04	8.71

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
113	1197.11	1196.85	0.1151	0.27	0.10	0.85	0.012	0.0025	1190.68	1190.09	1195.18	9.10
114	1201.84	1201.24	0.0985	0.01	0.10	0.01	0.012	0.1000	1201.58	1200.98	1202.83	1.25
115	1201.81	1199.80	0.0315	0.01	0.10	0.06	0.012	0.0515	1201.58	1199.57	1202.83	1.25
116	1197.46	1197.21	0.1100	0.25	0.10	0.85	0.012	0.0010	1190.91	1190.68	1195.41	9.87
117	1197.57	1197.56	0.0138	0.01	0.10	1.09	0.012	0.0100	1193.10	1192.50	1195.10	10.65
118	1197.58	1197.56	0.1030	0.02	0.10	0.06	0.012	0.0010	1190.92	1190.91	1195.42	9.94
119	1197.75	1197.68	0.1030	0.07	0.10	0.25	0.012	0.0010	1190.99	1190.92	1195.49	10.16
120	1197.96	1197.85	0.1714	0.12	0.10	0.48	0.012	0.0100	1193.38	1192.70	1194.63	11.62
121	1198.05	1197.85	0.0992	0.20	0.10	0.81	0.012	0.0010	1191.19	1190.99	1195.69	10.72
122	1204.17	1203.80	0.0154	0.01	0.10	0.35	0.012	0.0050	1203.81	1203.44	1205.06	1.63
123	1204.40	1204.06	0.0038	0.00	0.10	0.32	0.012	0.0050	1204.15	1203.81	1205.40	1.25
124	1198.37	1198.15	0.1820	0.22	0.10	0.39	0.012	0.0025	1192.78	1192.47	1196.78	10.17
125	1204.32	1203.12	0.0154	0.00	0.10	0.02	0.012	0.1000	1204.16	1202.96	1205.41	1.25
126	1204.34	1202.33	0.0115	0.00	0.10	0.06	0.012	0.0515	1204.16	1202.15	1205.41	1.25
127	1198.59	1198.47	0.1750	0.12	0.10	0.22	0.012	0.0028	1192.97	1192.78	1196.97	10.69
128	1198.27	1198.69	0.0107	0.01	0.10	0.08	0.012	0.0553	1197.98	1194.44	1199.98	9.27
129	1198.99	1198.69	0.1692	0.30	0.10	0.57	0.012	0.0028	1193.46	1192.97	1197.46	12.27
130	1198.21	1199.09	0.0105	0.01	0.10	0.08	0.012	0.0553	1197.92	1194.38	1199.92	9.83
131	1199.15	1199.09	0.1585	0.06	0.10	0.13	0.012	0.0028	1193.57	1193.46	1197.57	12.59
132	1206.41	1205.81	1.5621	0.37	0.10	0.04	0.012	0.0250	1205.60	1205.00	1206.85	3.90
133	1207.44	1205.53	0.6959	0.26	0.10	0.13	0.012	0.0503	1206.91	1205.00	1208.16	1.25
134	1199.42	1199.25	0.1057	0.17	0.10	0.68	0.012	0.0020	1193.96	1193.57	1197.96	12.90
135	1198.86	1199.52	0.0424	0.03	0.10	0.07	0.012	0.0526	1198.47	1194.89	1200.47	10.28
136	1199.55	1199.52	0.0890	0.03	0.10	0.13	0.012	0.0020	1193.96	1193.96	1197.96	13.01
137	1208.31	1206.30	1.1797	0.46	0.10	0.10	0.012	0.0515	1207.72	1205.71	1208.97	1.22
138	1199.80	1199.65	0.0695	0.15	0.10	1.12	0.012	0.0025	1194.51	1193.96	1198.51	13.32
139	1209.05	1202.47	0.3248	0.24	0.10	0.37	0.012	0.0901	1208.68	1202.10	1209.93	1.83
140	1209.74	1209.46	0.2539	0.14	0.10	0.20	0.012	0.0050	1208.97	1208.68	1210.22	1.59

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
141	1209.96	1209.67	0.1880	0.11	0.10	0.27	0.012	0.0050	1209.26	1208.97	1210.51	0.99
142	1199.98	1199.90	0.0611	0.08	0.10	0.70	0.012	0.0025	1194.83	1194.51	1198.83	13.52
143	1199.76	1200.08	0.0083	0.01	0.10	0.10	0.012	0.0492	1199.47	1195.83	1201.47	11.28
144	1200.13	1200.08	0.0552	0.05	0.10	0.40	0.012	0.0025	1195.06	1194.83	1199.06	13.71
145	1210.04	1208.03	0.7811	0.30	0.10	0.13	0.012	0.0515	1209.51	1207.50	1210.76	1.25
146	1200.30	1200.23	0.0420	0.07	0.10	0.78	0.012	0.0024	1195.48	1195.06	1199.48	13.44
147	1210.84	1210.14	0.0083	0.00	0.10	0.01	0.012	0.1000	1210.70	1210.00	1211.95	1.25
148	1210.51	1210.13	0.0062	0.00	0.10	0.15	0.012	0.0097	1210.28	1209.90	1211.53	1.25
149	1200.41	1200.40	0.0345	0.01	0.10	0.11	0.012	0.0024	1195.64	1195.58	1199.64	13.81
150	1199.82	1200.40	0.0372	0.03	0.10	0.45	0.012	0.0024	1199.19	1198.98	1200.69	12.62
151	1200.01	1199.92	0.0385	0.09	0.10	0.35	0.012	0.0024	1199.73	1199.19	1201.23	13.05
152	1200.62	1200.50	0.0385	0.02	0.10	0.30	0.012	0.0024	1199.94	1199.82	1201.44	12.88
153												
154												
155												
156	The above Pipe information is the limits of the Ring Road Submittal of December, 1991											
157												
158	ARROWHEAD TOWNE CENTER ONSITE SYSTEM											
159	EAST 1/2 MALL		PENNEYS LL									
160	1194.96	1194.28	0.8894	0.68	0.00	0.21	0.012	0.0100	1193.72	1192.95	1195.22	8.03
161	1196.34	1195.06	0.1880	0.34	0.10	1.22	0.012	0.0100	1195.78	1193.97	1197.03	7.05
162	1196.88	1195.06	0.8634	1.81	0.10	0.66	0.012	0.0100	1196.07	1193.97	1197.32	5.93
163			PENNEYS-MERVYN'S UL									
164	1212.61	1195.83	0.8128	2.69	0.00	0.36	0.012	0.0509	1211.98	1195.12	1213.48	7.08
165	1214.21	1213.48	0.8433	1.22	0.10	0.41	0.012	0.0050	1212.71	1211.98	1214.21	9.21
166	1214.16	1213.03	0.0043	0.00	0.10	0.33	0.012	0.0150	1213.96	1212.83	1215.21	5.49
167	1214.55	1214.31	0.7734	0.25	0.10	0.09	0.012	0.0050	1212.87	1212.71	1214.37	9.03
168	1215.56	1214.65	0.7734	0.90	0.10	0.34	0.012	0.0050	1213.45	1212.87	1214.95	8.90

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
169	1216.13	1215.66	0.0405	0.03	0.10	0.17	0.012	0.0260	1215.83	1213.70	1217.08	6.67
170	1215.71	1215.66	0.1076	0.06	0.10	0.37	0.012	0.0200	1214.74	1213.70	1215.99	7.26
171	1215.62	1215.81	0.0858	0.03	0.10	0.12	0.012	0.0110	1215.18	1214.74	1216.43	7.32
172	1215.94	1215.62	0.0858	0.03	0.10	0.10	0.012	0.0100	1215.50	1215.18	1216.75	7.00
173	1215.82	1215.66	0.3316	0.17	0.10	0.22	0.012	0.0050	1213.80	1213.55	1215.30	8.41
174	1219.78	1215.92	0.1509	0.15	0.10	0.17	0.012	0.0525	1219.50	1214.30	1220.50	3.25
175	1215.33	1215.92	0.1993	0.27	0.10	0.54	0.012	0.0050	1214.49	1213.80	1215.99	7.71
176	1220.23	1215.22	0.0685	0.07	0.10	0.19	0.012	0.0492	1220.00	1214.99	1221.00	2.75
177	1215.99	1215.43	0.1337	0.20	0.10	0.53	0.012	0.0050	1215.24	1214.49	1216.74	7.04
178	1218.47	1216.09	0.0517	0.03	0.10	0.10	0.012	0.0500	1218.19	1215.49	1219.44	3.81
179	1219.56	1218.57	0.1330	0.04	0.10	0.07	0.012	0.0252	1219.25	1218.44	1220.25	3.50
180	1216.14	1216.09	0.0510	0.03	0.10	0.26	0.012	0.0050	1215.57	1215.24	1217.07	6.71
181	1218.25	1216.24	0.4435	0.21	0.10	0.08	0.012	0.0383	1217.87	1216.07	1218.87	2.48
182	1219.46	1218.35	0.0362	0.01	0.10	0.08	0.012	0.0419	1219.25	1217.87	1220.25	4.00
183	1219.66	1218.35	0.2263	0.08	0.10	0.10	0.012	0.0383	1219.25	1217.87	1220.25	4.50
184			MERVYN'S-	ROBINS	ONS LL							
185	1196.47	1195.84	0.2037	0.63	0.00	1.47	0.012	0.0036	1195.46	1194.34	1197.46	6.54
186	1199.02	1196.57	0.0209	0.00	0.10	0.04	0.012	0.0050	1198.53	1198.50	1199.78	4.22
187	1199.37	1196.57	0.0789	0.04	0.10	0.25	0.012	0.0050	1198.74	1198.50	1199.99	4.01
188	1197.33	1196.57	0.5771	0.76	0.10	0.45	0.012	0.0025	1195.79	1195.46	1197.29	7.45
189	1197.43	1197.43	0.0208	0.00	0.10	0.08	0.012	0.0100	1196.08	1196.04	1197.33	7.15
190	1197.53	1197.53	0.0015	0.00	0.10	2.75	0.012	0.0100	1196.45	1196.08	1197.70	5.55
191	1197.54	1197.53	0.0110	0.00	0.10	0.47	0.012	0.0225	1196.46	1196.08	1197.71	8.04
192	1197.99	1197.43	0.4866	0.56	0.10	0.43	0.012	0.0025	1196.07	1195.79	1197.57	8.70
193	1198.09	1198.09	0.0110	0.00	0.10	0.53	0.012	0.0100	1196.51	1196.32	1197.76	7.99
194	1198.32	1198.09	0.4153	0.23	0.10	0.22	0.012	0.0025	1196.21	1196.07	1197.71	8.55
195	1198.93	1198.42	0.4153	0.51	0.10	0.49	0.012	0.0025	1196.52	1196.21	1198.02	8.30
196	1199.24	1199.03	0.2526	0.21	0.10	0.48	0.012	0.0100	1197.59	1196.77	1198.84	6.91

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
197	1199.34	1199.34	0.0110	0.00	0.10	0.53	0.012	0.0100	1197.78	1197.59	1199.03	6.72
198	1199.37	1199.34	0.1654	0.03	0.10	0.14	0.012	0.0100	1197.78	1197.59	1199.03	6.72
199	1199.21	1199.03	0.1549	0.18	0.10	0.76	0.012	0.0025	1196.81	1196.52	1198.31	7.95
200	1199.32	1199.31	0.0643	0.02	0.10	0.30	0.012	0.0300	1197.84	1197.06	1199.09	6.66
201	1199.75	1199.42	0.0809	0.33	0.10	3.67	0.012	0.0025	1197.81	1196.81	1199.31	7.06
202	1199.87	1199.85	0.0643	0.02	0.10	0.30	0.012	0.0100	1198.32	1198.06	1199.57	6.18
203	1199.86	1199.85	0.0210	0.01	0.10	0.82	0.012	0.0025	1197.93	1197.81	1199.43	7.04
204	1200.02	1199.96	0.0243	0.06	0.10	4.13	0.012	0.0025	1198.55	1197.93	1200.05	6.38
205	1200.14	1200.12	0.0643	0.02	0.10	0.30	0.012	0.0025	1198.97	1198.90	1200.22	5.53
206			MERVYN'S-ROBINSONS LL									
207	1195.75	1195.67	0.0959	0.08	0.00	0.46	0.012	0.0025	1193.28	1193.06	1196.28	6.97
208	1196.28	1195.85	0.1444	0.42	0.10	2.26	0.012	0.0025	1195.76	1195.03	1197.01	6.54
209	1196.17	1195.85	0.1518	0.32	0.10	0.98	0.012	0.0025	1194.30	1193.78	1196.80	6.95
210	1196.92	1196.27	0.3848	0.65	0.10	0.58	0.012	0.0025	1195.22	1194.80	1197.22	6.47
211	1197.44	1197.02	0.2253	0.42	0.10	0.85	0.012	0.0025	1195.69	1195.22	1197.69	5.90
212	1197.74	1197.54	0.1188	0.20	0.10	1.05	0.012	0.0025	1196.11	1195.69	1198.11	5.64
213	1198.32	1197.84	0.2391	0.48	0.10	1.06	0.012	0.0025	1197.11	1196.61	1198.61	6.24
214	1198.52	1198.42	0.1613	0.10	0.10	0.38	0.012	0.0025	1197.26	1197.11	1198.76	6.17
215	1199.08	1198.62	0.2708	0.46	0.10	0.96	0.012	0.0025	1197.94	1197.51	1199.19	6.25
216			FUTURE-ROBINSONS UL									
217	1199.27	1199.26	0.3880	0.00	0.00	0.00	0.012	0.0535	1198.83	1198.78	1200.08	14.01
218	1203.47	1199.37	0.3880	0.40	0.10	0.17	0.012	0.0400	1202.99	1198.83	1204.24	13.56
219	1205.59	1203.57	0.3880	0.27	0.10	0.12	0.012	0.0300	1205.06	1202.99	1206.31	14.01
220	1207.82	1205.69	0.0015	0.00	0.10	0.39	0.012	0.0300	1207.67	1205.06	1208.92	11.63
221	1208.99	1205.69	0.3413	0.39	0.10	0.20	0.012	0.0300	1208.51	1205.06	1209.76	13.40
222	1216.41	1209.09	0.3537	1.04	0.10	0.55	0.012	0.0250	1215.89	1208.51	1217.14	5.61
223	1217.08	1216.51	0.0643	0.02	0.10	0.07	0.012	0.0300	1216.76	1215.89	1218.01	4.74
224	1217.40	1216.51	0.1163	0.05	0.10	0.10	0.012	0.0250	1217.01	1215.89	1218.26	4.49

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
225	1219.00	1217.50	0.1163	0.07	0.10	0.14	0.012	0.0250	1218.61	1217.01	1219.86	2.89
226			FUTURE STORE LL									
227	1201.92	1201.86	0.0283	0.07	0.00	2.04	0.012	0.0019	1196.16	1195.72	1199.66	5.00
228	1202.04	1202.02	0.0643	0.02	0.10	0.17	0.012	0.0024	1196.72	1196.66	1199.72	4.53
229	1202.26	1202.14	0.1209	0.12	0.10	0.53	0.012	0.0024	1197.46	1197.22	1199.96	4.29
230	1202.45	1202.36	0.0831	0.09	0.10	0.72	0.012	0.0024	1197.73	1197.46	1200.23	4.02
231	1202.66	1202.55	0.0830	0.10	0.10	0.93	0.012	0.0024	1198.53	1198.23	1200.53	7.84
232	1202.88	1202.76	0.0884	0.12	0.10	1.35	0.012	0.0024	1199.61	1199.28	1200.86	5.32
233	1202.99	1202.98	0.0884	0.01	0.10	0.16	0.012	0.0024	1199.75	1199.71	1201.00	4.75
234	1203.09	1202.76	0.2040	0.33	0.10	0.93	0.012	0.0024	1199.02	1198.63	1200.52	4.23
235	1203.32	1203.19	0.1356	0.13	0.10	0.66	0.012	0.0024	1199.25	1199.02	1200.75	3.00
236	1203.47	1203.42	0.2065	0.06	0.10	0.17	0.012	0.0024	1199.44	1199.37	1200.69	3.06
237	1203.59	1203.57	0.0991	0.01	0.10	0.14	0.012	0.0024	1199.47	1199.44	1200.72	3.03
238												
239												
240	WEST 1/2	MALL	PENNEYS-DILLARDS LL									
241	1197.36	1196.88	0.3602	0.48	0.10	0.41	0.012	0.0024	1192.42	1192.10	1194.92	7.73
242	1198.01	1197.46	0.2819	0.55	0.10	0.79	0.012	0.0024	1193.39	1192.92	1195.39	7.26
243	1198.33	1198.11	0.1199	0.22	0.10	1.14	0.012	0.0024	1193.84	1193.39	1195.84	10.61
244			PENNEYS LL									
245	1198.50	1198.43	0.0390	0.07	0.10	2.65	0.012	0.0024	1195.02	1194.59	1196.27	9.68
246	1198.64	1198.60	0.0405	0.04	0.10	1.31	0.012	0.0024	1195.23	1195.02	1196.48	9.27
247	1198.74	1198.74	0.0405	0.00	0.10	0.12	0.012	0.0150	1195.35	1195.23	1196.60	9.15
248			DILLARDS-PENNEYS LL									
249	1198.68	1198.43	0.4347	0.25	0.10	0.22	0.012	0.0024	1194.47	1194.34	1195.97	10.48
250	1198.82	1198.78	0.1618	0.04	0.10	0.19	0.012	0.0150	1195.11	1194.72	1196.36	9.39
251	1198.94	1198.78	0.2367	0.16	0.10	0.36	0.012	0.0024	1194.64	1194.47	1196.14	10.05
252	1198.39	1199.04	0.1412	0.15	0.10	0.20	0.012	0.0300	1198.01	1194.89	1199.26	6.49

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
253	1202.04	1198.49	0.1481	0.05	0.10	0.04	0.012	0.1070	1201.75	1198.01	1203.00	2.75
254			DILLARDS LL									
255	1199.25	1199.04	0.1762	0.20	0.10	0.81	0.012	0.0024	1195.16	1194.89	1196.41	9.13
256	1199.37	1199.35	0.0712	0.02	0.10	0.34	0.012	0.0150	1195.63	1195.16	1196.88	8.87
257	1199.49	1199.35	0.0591	0.14	0.10	2.92	0.012	0.0024	1195.75	1195.16	1197.00	8.43
258	1199.64	1199.59	0.0610	0.05	0.10	0.88	0.012	0.0024	1195.93	1195.75	1197.18	8.35
259	1199.76	1199.74	0.0712	0.02	0.10	0.34	0.012	0.0150	1196.39	1195.93	1197.64	8.11
260	1199.75	1199.74	0.0035	0.01	0.10	14.50	0.012	0.0024	1196.63	1195.93	1197.88	7.87
261	1199.85	1199.85	0.0037	0.00	0.10	1.67	0.012	0.0024	1196.71	1196.63	1197.96	5.37
262			DILLARDS LL									
263	1198.67	1197.46	0.3972	1.21	0.10	1.03	0.012	0.0024	1193.65	1192.92	1195.65	6.40
264	1199.27	1198.77	0.2742	0.50	0.10	0.74	0.012	0.0024	1194.09	1193.65	1196.09	5.96
265	1199.65	1199.37	0.1759	0.28	0.10	0.83	0.012	0.0024	1194.48	1194.09	1196.48	6.27
266	1200.02	1199.75	0.0710	0.10	0.10	0.23	0.012	0.0350	1199.50	1194.48	1201.50	1.25
267	1201.57	1200.12	0.0824	0.10	0.10	0.38	0.012	0.0081	1201.00	1200.00	1202.50	1.25
268			WARDS-DILLARDS UL									
269	1213.01	1206.41	1.5621	5.09	0.00	0.56	0.012	0.0200	1212.12	1205.60	1213.37	7.83
270	1214.95	1213.11	1.5621	1.84	0.10	0.28	0.012	0.0100	1213.30	1212.12	1214.55	8.46
271	1215.07	1215.05	0.0735	0.02	0.10	0.33	0.012	0.0150	1213.77	1213.30	1215.02	7.73
272	1217.08	1215.05	1.0128	2.03	0.10	0.58	0.012	0.0100	1215.30	1213.30	1216.55	6.47
273	1217.32	1217.18	0.4670	0.14	0.10	0.13	0.012	0.0150	1215.77	1215.30	1217.02	5.73
274	1217.28	1217.18	0.1163	0.09	0.10	0.63	0.012	0.0100	1216.04	1215.30	1217.29	6.09
275	1219.64	1217.38	0.1163	0.16	0.10	0.29	0.012	0.0238	1219.25	1216.04	1220.50	2.25
276			WARDS LL									
277	1200.43	1200.41	0.0345	0.02	0.00	0.49	0.012	0.0024	1195.80	1195.64	1199.80	N.A.
278	1208.97	1200.53	N.A.	N.A.	0.10	0.04	0.012	0.4489	1208.85	1197.18	1210.10	2.45
279	1200.49	1200.43	0.0353	0.06	0.10	1.18	0.012	0.0024	1196.20	1195.80	1200.20	N.A.
280	1210.33	1200.59	N.A.	N.A.	0.10	0.00	0.012	6.0000	1210.20	1198.20	1211.45	1.25

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 100 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
281	1200.65	1200.59	0.0336	0.06	0.10	1.34	0.012	0.0024	1196.64	1196.20	1200.64	7.94
282	1200.81	1200.75	0.0336	0.06	0.10	1.18	0.012	0.0024	1197.14	1196.74	1201.14	3.11
283	1203.02	1200.91	0.3715	0.69	0.10	0.54	0.012	0.0094	1202.18	1200.40	1203.68	2.17
284	1203.74	1203.12	0.5526	0.62	0.10	0.44	0.012	0.0024	1202.70	1202.43	1203.95	1.50
285	1201.16	1200.91	0.1922	0.25	0.10	0.63	0.012	0.0024	1198.45	1198.14	1200.45	5.86
286	1202.47	1201.26	0.3389	0.76	0.10	1.13	0.012	0.0024	1201.22	1200.68	1202.47	5.56
287	1202.84	1202.57	0.2230	0.55	0.10	1.53	0.012	0.0024	1201.81	1201.22	1203.06	3.52
288	1201.58	1201.26	0.3437	0.33	0.10	0.42	0.012	0.0024	1198.78	1198.55	1200.28	6.57
289	1201.82	1201.68	0.1920	0.14	0.10	0.49	0.012	0.0024	1199.05	1198.88	1200.30	3.45
290	1201.84	1201.68	0.0783	0.16	0.10	2.09	0.012	0.0024	1199.38	1198.90	1200.63	5.12
291	1202.14	1201.92	0.1920	0.22	0.10	0.75	0.012	0.0024	1199.32	1199.05	1200.57	2.68
292	1202.28	1202.24	0.0808	0.04	0.10	0.53	0.012	0.0024	1199.45	1199.32	1200.70	2.55
293	1202.24	1202.24	0.0262	0.00	0.10	0.27	0.012	0.0024	1199.36	1199.32	1200.61	2.64
294												
295												
296	The above Pipe information is the limits of the Arrowhead Mall Onsite storm drain system.											
297												
298	NOTES:											
299												
300	1. UPPER LEVEL FINISH FLOOR (UL) ELEV=1225.0 except DILLARDS =1225.083											
301	2. LOWER LEVEL FINISH FLOOR (LL) ELEV=1207.5 except DILLARDS =1207.583											
302	3.AC PARCELS (ASSOCIATED COMMERCIAL) DATA SHOWN IS MAXIMUM											
303	RUNOFF PERMITTED FROM FUTURE DEVELOPMENT.											

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
1											
2		**MALL, NVPC @ AC'S 50%**									
3		**NORTH VALLEY DEVELOPMENT "MALL & ADJACENT PARCELS with the POWER CENTER"**									
4	FILE:	**STRAIT10.WK3**		**ARROWHEAD TOWNE CENTER**							
5				*****FINAL*****						RAIN	FLOW
6	PIPE			DRAINAGE	AREA 'A'	RUNOFF	INLET	TOTAL	Tc	IN/HR	'Q'
7	LINE No.	INLET	OUTLET	AREA	'ACRES	'C'	'CA'	'CA'	(min.)	10 year	C.F.S.
8		STRAIGHT OUTFALL TO SKUNK CREEK									
9		IMPROVEMENT DISTRICT NO. 57									
10											
11	P-160	MH-45	SKUNKCREEK		N.A.	N.A.	N.A.	155.66	54.57	1.50	234.12
12	P-158	N.A.	MH-45	PARADISE LN	1.92	0.85	1.63	155.66	53.71	1.52	234.12
13	P-157	TEE	MH-46	NVPC SOUTH	28.64	0.80	22.91	154.03	53.59	1.52	234.12
14	P-156	MH-47	TEE	NVPC NORTH	24.84	0.80	19.87	131.12	51.79	1.56	204.54
15	P-155	TEE	TEE	BELL RD WEST	N.A.	N.A.	N.A.	111.25	50.86	1.58	175.77
16	P-154	TEE	TEE	BELL RD EAST	10.49	0.85	8.92	111.25	50.14	1.60	177.99
17		TEE	MH-48		N.A.	N.A.	N.A.	102.33	49.36	1.63	166.80
18		MH-48	PLUG		N.A.	N.A.	N.A.	102.33	48.92	1.63	166.80
19											
20		The above Pipe information is the limits of the Improvment District No. 57									
21											
22		ARROWHEAD TOWNE CENTER OUTFALL									
23	P-145	TEE146A	PLG154		N.A.	N.A.	N.A.	102.33	48.77	1.63	166.80
24	P-146A	CB-146A	TEE146A	DA#90	0.06	0.85	0.05	0.05	30.00	2.40	0.12
25	P-145	TEE146	TEE146A		N.A.	N.A.	N.A.	102.28	48.76	1.63	166.71
26	P-146	CB-146	TEE146	DA#89	0.05	0.85	0.04	0.04	30.00	2.40	0.10
27											
28		ARROWHEAD TOWNE CENTER RING ROAD TRUNK LINE									

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
29				EAST 1/2 MALL							
30	P-145	STR145	TEE146	DA#88	41.62	1.00	41.62	102.24	48.74	1.63	166.64
31	P-144	CB-144	STR145	DA#87	0.53	0.85	0.45	0.45	30.00	2.40	1.08
32	P-140	TEE143	STR145		N.A.	N.A.	N.A.	60.16	48.42	1.66	99.87
33	P-142	CB-142	TEE143	DA#86	0.17	0.85	0.14	0.37	30.18	2.40	0.90
34	P-141	CB-141	CB-142	DA#85	0.27	0.85	0.23	0.23	30.00	2.40	0.55
35	P-140	MH-140	TEE143		N.A.	N.A.	N.A.	59.79	48.22	1.66	99.25
36	P-139	PLUG-139	MH-140		N.A.	N.A.	N.A.	3.21	31.24	2.35	7.55
37	P-136	TEE216	MH-140		N.A.	N.A.	N.A.	56.58	47.91	1.66	93.92
38	P-216	PLUG-216	TEE216	AC #11	4.31	0.40	1.72	1.72	30.00	2.40	4.14
39	P-136	MH-136	TEE216		N.A.	N.A.	N.A.	54.85	47.15	1.69	92.70
40	P-134	PLUG-134	MH-136		N.A.	N.A.	N.A.	3.19	33.45	2.25	7.17
41	P-135	CB-135	MH-136	DA#84	0.22	0.85	0.19	0.19	30.00	2.40	0.45
42	P-126	TEE215	MH-136		N.A.	N.A.	N.A.	51.48	46.66	1.69	87.00
43	P-215	PLUG-215	TEE215	AC #11	4.32	0.40	1.73	1.73	30.00	2.40	4.15
44	P-126	MH-126	TEE215		N.A.	N.A.	N.A.	49.75	45.74	1.72	85.57
45	P-125	CB-125	MH-126	DA#83	5.24	0.85	4.45	4.45	30.00	2.40	10.69
46	P-124	MH-124	MH-126		N.A.	N.A.	N.A.	45.30	44.60	1.75	79.27
47	P-214	PLUG-214	MH-124	AC #12	5.23	0.40	2.09	2.09	30.00	2.40	5.02
48	P-123	PLUG-123	MH-124		N.A.	N.A.	N.A.	4.01	49.34	1.63	6.53
49	P-102	TEE114	MH-124		N.A.	N.A.	N.A.	39.20	44.17	1.78	69.77
50	P-113	PLUG-113	TEE114		N.A.	N.A.	N.A.	7.36	39.31	1.95	14.35
51	P-102	TEE105	TEE114		N.A.	N.A.	N.A.	31.84	44.10	1.78	56.67
52	P-103	CB-103	TEE105	DA#82	0.09	0.85	0.08	0.08	30.00	2.40	0.18
53	P-104	CB-104	TEE105	DA#79	0.49	0.85	0.42	0.42	30.00	2.40	1.00
54	P-102	MH-102	TEE105		N.A.	N.A.	N.A.	31.34	43.81	1.78	55.79
55	P-100	CB-100	MH-102	DA#81	0.50	0.85	0.43	0.43	30.00	2.40	1.02
56	P-101	CB-101	MH-102	DA#79	1.75	0.85	1.49	1.49	30.00	2.40	3.57

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
57	P-96	TEE213	MH-102		N.A.	N.A.	N.A.	29.43	43.59	1.78	52.39
58	P-213	PLUG-213	TEE213	AC #12	5.24	0.40	2.10	2.10	30.00	2.40	5.03
59	P-96	TEE99	TEE213		N.A.	N.A.	N.A.	27.34	43.50	1.81	49.48
60	P-98	CB-98	TEE99	DA#80	0.33	0.85	0.28	0.28	30.00	2.40	0.67
61	P-97	CB-97	TEE99	DA#79	1.75	0.85	1.49	1.49	30.00	2.40	3.57
62	P-96	MH-96	TEE99		N.A.	N.A.	N.A.	25.57	43.19	1.81	46.28
63	P-95	TEE212	MH-96		N.A.	N.A.	N.A.	25.57	42.28	1.84	47.04
64	P-212	PLUG-212	TEE212	AC #12	5.24	0.40	2.10	2.10	30.00	2.40	5.03
65	P-95	MH-95	TEE212		N.A.	N.A.	N.A.	23.47	41.97	1.84	43.19
66	P-94	CB-94	MH-95	DA#78	0.30	0.85	0.26	0.26	30.00	2.40	0.61
67	P-93	CB-93	MH-95	DA#77	0.43	0.85	0.37	0.75	30.65	2.35	1.76
68	P-92	CB-92	CB-93	DA#76	0.34	0.85	0.29	0.38	30.30	2.40	0.92
69	P-91	CB-91	CB-92	DA#75	0.11	0.85	0.09	0.09	30.00	2.40	0.22
70	P-90	TEE211	MH-95		N.A.	N.A.	N.A.	22.47	41.17	1.87	42.02
71	P-211	PLUG-211	TEE211	AC #13	1.81	0.40	0.72	0.72	30.00	2.40	1.74
72	P-90	MH-90	TEE211		N.A.	N.A.	N.A.	21.74	40.89	1.87	40.66
73	P-88	CB-88	MH-90	DA#74	0.19	0.85	0.16	0.46	30.00	2.40	1.10
74	P-89	CB-89	MH-90	DA#73	0.35	0.85	0.30	0.30	30.00	2.40	0.71
75	P-87	TEE210	MH-90		N.A.	N.A.	N.A.	21.29	40.79	1.87	39.80
76	P-210	PLUG-210	TEE210	AC #13	1.81	0.40	0.72	0.72	30.00	2.40	1.74
77	P-87	MH-87	TEE210		N.A.	N.A.	N.A.	20.56	40.14	1.90	39.07
78	P-86	CB-86	MH-87	DA#72	0.12	0.85	0.10	0.26	30.36	2.40	0.63
79	P-85	CB-85	CB-86	DA#71	0.19	0.85	0.16	0.16	30.00	2.40	0.39
80	P-84	MH-84	MH-87		N.A.	N.A.	N.A.	20.30	39.36	1.95	39.58
81	P-209	PLUG-209	MH-84	AC #14	2.61	0.40	1.04	1.04	30.00	2.40	2.51
82	P-80	MH-80	MH-84		N.A.	N.A.	N.A.	19.25	38.76	1.95	37.54
83	P-83	PLUG-83C	MH-80		N.A.	N.A.	N.A.	1.31	31.40	2.35	3.07
84	P-79	CB-79	MH-80	DA#70	1.66	0.85	1.41	1.41	30.00	2.40	3.39

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
85	P-78	TEE208	MH-80		N.A.	N.A.	N.A.	16.54	38.59	1.95	32.25
86	P-208	PLUG-208	TEE208	AC #14	2.62	0.40	1.05	1.05	30.00	2.40	2.52
87	P-78	MH-78	TEE208		N.A.	N.A.	N.A.	15.49	38.08	2.00	30.98
88	P-77	CB-77	MH-78	DA#69	1.33	0.85	1.13	1.13	30.00	2.40	2.71
89	P-76	TEE207	MH-78		N.A.	N.A.	N.A.	14.36	37.66	2.00	28.72
90	P-207	PLUG-207	TEE207	AC #7E	4.63	0.40	1.85	1.85	30.00	2.40	4.44
91	P-76	MH-76	TEE207		N.A.	N.A.	N.A.	12.51	37.26	2.05	25.64
92	P-75	CB-75	MH-76	DA#68	1.18	0.85	1.00	2.79	30.55	2.35	6.55
93	P-74	CB-74	CB-75	DA#67	1.90	0.85	1.62	1.79	30.15	2.40	4.28
94	P-73	CB-73	CB-74	DA#66	0.20	0.85	0.17	0.17	30.00	2.40	0.41
95	P-72	MH-72	MH-76		N.A.	N.A.	N.A.	9.72	35.95	2.10	20.41
96	P-71	CB-71	MH-72	DA#65	1.19	0.85	1.01	1.19	30.28	2.40	2.86
97	P-70	CB-70	CB-71	DA#64	0.21	0.85	0.18	0.18	30.00	2.40	0.43
98	P-69	TEE206	MH-72		N.A.	N.A.	N.A.	8.53	35.38	2.15	18.34
99	P-206	PLUG-206	TEE206	AC #7W	13.12	0.10	1.31	1.31	30.00	2.40	3.15
100	P-69	MH-69	TEE206		N.A.	N.A.	N.A.	7.22	34.89	2.15	15.52
101	P-68	CB-68	MH-69	DA#63	1.67	0.85	1.42	1.42	30.00	2.40	3.41
102	P-67	MH-67	MH-69		N.A.	N.A.	N.A.	5.80	34.50	2.20	12.75
103	P-66	PLUG-66	MH-67		N.A.	N.A.	N.A.	5.80	34.50	2.20	12.75
104											
105				WEST 1/2 MALL							
106	P-56	TEE59	STR145		N.A.	N.A.	N.A.	41.62	66.30	1.28	53.28
107	P-58	CB-58	TEE59	DA#62	0.76	0.85	0.65	0.65	30.00	2.40	1.55
108	P-57	CB-57	TEE59	DA#61	0.27	0.85	0.23	0.23	30.00	2.40	0.55
109	P-56	MH-56	TEE59		N.A.	N.A.	N.A.	40.75	65.90	1.28	52.15
110	P-55	PLUG-55	MH-56		N.A.	N.A.	N.A.	11.47	65.90	1.28	14.68
111	P-40	TEE200	MH-56		N.A.	N.A.	N.A.	29.28	47.48	1.69	49.48
112	P-200	PLUG-200	TEE200	AC #11	4.75	0.40	1.90	1.90	30.00	2.40	4.56

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
113	P-40	MH-40	TEE200		N.A.	N.A.	N.A.	27.38	46.17	1.72	47.09
114	P-39	CB-39	MH-40	DA#60	0.76	0.85	0.65	0.65	30.00	2.40	1.55
115	P-38	CB-38	MH-40	DA#59	0.43	0.85	0.37	0.37	30.00	2.40	0.88
116	P-37	TEE201	MH-40		N.A.	N.A.	N.A.	26.37	44.87	1.75	46.14
117	P-201	PLUG-201	TEE201	AC #10	2.12	0.40	0.85	0.85	30.00	2.40	2.04
118	P-37	MH-37	TEE201		N.A.	N.A.	N.A.	25.52	44.78	1.75	44.65
119	P-36	TEE202	MH-37		N.A.	N.A.	N.A.	25.52	44.40	1.78	45.42
120	P-202	PLUG-202	TEE202	AC #10	2.13	0.40	0.85	0.85	30.00	2.40	2.04
121	P-36	MH-36	TEE202		N.A.	N.A.	N.A.	24.67	43.18	1.81	44.64
122	P-35	CB-35	MH-36	DA#58	0.15	0.85	0.13	0.26	30.45	2.40	0.61
123	P-34	CB-34	CB-35	DA#57	0.15	0.85	0.13	0.13	30.00	2.40	0.31
124	P-33	MH-33	MH-36		N.A.	N.A.	N.A.	24.41	42.60	1.81	44.18
125	P-32	CB-32	MH-33	DA#56	0.30	0.85	0.26	0.26	30.00	2.40	0.61
126	P-31	CB-31	MH-33	DA#55	0.26	0.85	0.22	0.22	30.00	2.40	0.53
127	P-30	TEE203	MH-33		N.A.	N.A.	N.A.	23.93	42.27	1.84	44.04
128	P-203	PLUG-203	TEE203	AC #9	1.86	0.40	0.74	0.74	30.00	2.40	1.79
129	P-30	TEE204	TEE203		N.A.	N.A.	N.A.	23.19	41.43	1.87	43.37
130	P-204	PLUG-204	TEE204	AC #9	1.85	0.40	0.74	0.74	30.00	2.40	1.78
131	P-30	MH-30	TEE204		N.A.	N.A.	N.A.	22.45	41.24	1.87	41.98
132	P-29	PLUG-29	MH-30		N.A.	N.A.	N.A.	2.67	33.08	2.25	6.00
133	P-25	CB-25	MH-30	DA#54	2.02	0.85	1.72	1.72	30.00	2.40	4.12
134	P-24	TEE205	MH-30		N.A.	N.A.	N.A.	18.07	40.24	1.90	34.33
135	P-205	PLUG-205	TEE205	AC #9	3.71	0.40	1.48	1.48	30.00	2.40	3.56
136	P-24	MH-24	TEE205		N.A.	N.A.	N.A.	16.58	40.05	1.90	31.51
137	P-23	CB-23	MH-24	DA#53	2.63	0.85	2.24	2.24	30.00	2.40	5.37
138	P-22	MH-22	MH-24		N.A.	N.A.	N.A.	14.35	38.45	2.00	28.69
139	P-21	CB-21	MH-22	DA#52	0.16	0.85	0.14	1.17	30.48	2.40	2.82
140	P-20	CB-20	CB-21	DA#51	0.17	0.85	0.14	1.04	30.24	2.40	2.49

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
141	P-19	CB-19	CB-20	DA#50	1.05	0.85	0.89	0.89	30.00	2.40	2.14
142	P-18	TEE217	MH-22		N.A.	N.A.	N.A.	13.17	37.46	2.05	27.01
143	P-217	PLUG-217	TEE217	AC #7W	6.56	0.10	0.66	0.66	30.00	2.40	1.57
144	P-18	MH-18	TEE217		N.A.	N.A.	N.A.	12.52	37.06	2.05	25.66
145	P-17	CB-17	MH-18	DA#49	2.14	0.85	1.82	1.82	30.00	2.40	4.37
146	P-16	MH-16	MH-18		N.A.	N.A.	N.A.	10.70	36.27	2.10	22.47
147	P-15A	CB-15A	MH-16	DA#48	0.22	0.85	0.19	0.19	30.00	2.40	0.45
148	P-15	CB-15	MH-16	DA#47	0.19	0.85	0.16	0.16	30.00	2.40	0.39
149	P-13	PLUG-13	MH-16		N.A.	N.A.	N.A.	9.69	36.16	2.10	20.36
150	P-14A	MH-14A	MH-16		N.A.	N.A.	N.A.	0.66	30.64	2.35	1.54
151	P-14	MH-14	MH-14A		N.A.	N.A.	N.A.	0.66	30.29	2.40	1.58
152	P-12	PLUG-12	MH-14	AC #7W	6.57	0.10	0.66	0.66	30.00	2.40	1.58
153											
154											
155											
156		The above Pipe information is the limits of the Ring Road Submittal of December, 1991									
157											
158		ARROWHEAD TOWNE CENTER ONSITE SYSTEM									
159		EAST 1/2 MALL		PENNEYS LL							
160	P-139	CB-139	PLUG-139	DA#46	0.48	0.85	0.41	3.21	30.94	2.35	7.55
161	P-138	CB-138	CB-139	DA#45	1.05	0.85	0.89	0.89	30.00	2.40	2.14
162	P-137	CB-137	CB-139	DA#44	2.25	0.85	1.91	1.91	30.00	2.40	4.59
163				PENNEYS-MERVYN'S UL							
164	P-134	MH-134	PLUG-134		N.A.	N.A.	N.A.	3.19	33.04	2.25	7.17
165	P-133	TEE-81	MH-134		N.A.	N.A.	N.A.	3.19	32.46	2.30	7.33
166	P-81	CB-81	TEE-81	DA#43	0.15	0.90	0.14	0.14	30.00	2.40	0.32
167	P-133	MH-133	TEE-81		N.A.	N.A.	N.A.	3.05	32.33	2.30	7.02
168	P-131	MH-131	MH-133		N.A.	N.A.	N.A.	3.05	31.84	2.30	7.02

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
169	P-26C	PLUG-26C	MH-131	NW1/4 STORE P	0.46	0.90	0.41	0.41	30.00	2.40	0.99
170	P-26	CB-26	MH-131	MALL DA#42	0.08	0.90	0.07	0.68	30.25	2.40	1.62
171	P-26A	ELBO-26A	CB-26		N.A.	N.A.	N.A.	0.60	30.11	2.40	1.45
172	P-26B	PLUG-26B	ELBO-26A	MALL DA#41	0.67	0.90	0.60	0.60	30.00	2.40	1.45
173	P-130	TEE-130A	MH-131		N.A.	N.A.	N.A.	1.96	31.51	2.30	4.51
174	P-130A	PLUG-130A	TEE-130A	MALL DA#40	0.49	0.90	0.44	0.44	30.00	2.40	1.06
175	P-130	MH-130	TEE-130A		N.A.	N.A.	N.A.	1.52	31.01	2.35	3.57
176	P-130B	PLUG-130B	MH-130	MALL DA#39	0.33	0.90	0.30	0.30	30.00	2.40	0.71
177	P-128	TEE-128A	MH-130		N.A.	N.A.	N.A.	1.22	30.44	2.40	2.94
178	P-128A	CB-128A	TEE-128A	DA#38	0.06	0.90	0.05	0.47	30.08	2.40	1.12
179	P-11	PLUG-11	CB-128A	MALL DA#37	0.46	0.90	0.41	0.41	30.00	2.40	0.99
180	P-128	MH-128	TEE-128A		N.A.	N.A.	N.A.	0.76	30.17	2.40	1.81
181	P-128	MH-128B	MH-128		N.A.	N.A.	N.A.	0.76	30.08	2.40	1.81
182	P-128C	PLUG-128C	MH-128B	NW1/4 STORE M	0.24	0.90	0.22	0.22	30.00	2.40	0.52
183	P-128B	PLUG-128B	MH-128B	MALL DA#36	0.60	0.90	0.54	0.54	30.00	2.40	1.30
184				MERVYN'S- ROBINSONS LL							
185	P-123	MH-123	PLUG-123		N.A.	N.A.	N.A.	4.01	46.94	1.69	6.77
186	P-122	CB-122	MH-123	DA#35	0.35	0.85	0.30	0.30	30.00	2.40	0.71
187	P-121	CB-121	MH-123	DA#34	0.68	0.85	0.58	0.58	30.00	2.40	1.39
188	P-120	MH-120	MH-123		N.A.	N.A.	N.A.	3.13	46.22	1.72	5.39
189	P-119	SDRC-119A	MH-120		N.A.	N.A.	N.A.	0.30	30.67	2.35	0.70
190	P-119	CB-119	SDRC-119A	DA#33	0.09	0.90	0.08	0.08	30.00	2.40	0.19
191	P-119A	PLUG-119A	SDRC-119A	SW1/4 STORE M	0.24	0.90	0.22	0.22	30.00	2.40	0.52
192	P-118	SDRC-118A	MH-120		N.A.	N.A.	N.A.	2.84	45.53	1.72	4.88
193	P-118A	PLUG-118A	SDRC-118A	SE1/4 STORE M	0.24	0.90	0.22	0.22	30.00	2.40	0.52
194	P-118	MH-118	SDRC-118A		N.A.	N.A.	N.A.	2.62	45.17	1.75	4.58
195	P-117	MH-117	MH-118		N.A.	N.A.	N.A.	2.62	44.40	1.78	4.66
196	P-117C	MH-117A	MH-117		N.A.	N.A.	N.A.	1.05	30.75	2.35	2.47

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
197	P-117B	PLUG-117B	MH-117A	NE1/4 STORE M	0.24	0.90	0.22	0.22	30.00	2.40	0.52
198	P-117A	PLUG-117A	MH-117A	MALL & DA#32	0.93	0.90	0.84	0.84	30.00	2.40	2.01
199	P-116C	MH-116B	MH-117		N.A.	N.A.	N.A.	1.57	43.20	1.81	2.83
200	P-116B	PLUG-116B	MH-116B	SE1/4 STORE R	0.58	0.90	0.52	0.52	30.00	2.40	1.25
201	P-116	SDRC-116A	MH-116B		N.A.	N.A.	N.A.	1.04	37.51	2.00	2.09
202	P-116A	PLUG-116A	SDRC-116A	SE1/4 STORE R	0.58	0.90	0.52	0.52	30.00	2.40	1.25
203	P-116	MH-116	SDRC-116A		N.A.	N.A.	N.A.	0.52	36.28	2.10	1.10
204	P-115A	BEND115A	MH-116		N.A.	N.A.	N.A.	0.52	30.42	2.40	1.25
205	P-115	PLUG-115	BEND115A	NW1/4 STORE R	0.58	0.90	0.52	0.52	30.00	2.40	1.25
206				MERVYN'S-ROBINSONS LL							
207	P-113	CB-113	PLUG-113	DA#31	1.17	0.85	0.99	7.36	38.59	1.95	14.35
208	P-112	CB-112	CB-113	DA#30	0.92	0.85	0.78	0.78	30.00	2.40	1.88
209	P-111	CB-111	CB-113	DA#29	0.91	0.85	0.77	5.58	37.11	2.05	11.45
210	P-110	CB-110	CB-111	DA#28	1.41	0.85	1.20	4.81	36.23	2.10	10.10
211	P-109	CB-109	CB-110	DA#27	1.22	0.85	1.04	3.61	34.97	2.15	7.77
212	P-108	CB-108	CB-109	DA#26	1.07	0.85	0.91	2.58	33.44	2.25	5.79
213	P-107A	CB-107A	CB-108	DA#25A	0.35	0.85	0.30	1.67	31.90	2.30	3.83
214	P-107	CB-107	CB-107A	DA#25	0.35	0.85	0.30	1.37	31.36	2.35	3.22
215	P-106	CB-106	CB-107	DA#24	1.26	0.85	1.07	1.07	30.00	2.40	2.57
216				FUTURE-ROBINSONS UL							
217	P-83C	MH-83C	PLUG-83C		N.A.	N.A.	N.A.	1.31	31.40	2.35	3.07
218	P-83B	MH-83B	MH-83C		N.A.	N.A.	N.A.	1.31	31.22	2.35	3.07
219	P-83	TEE-83A	MH-83B		N.A.	N.A.	N.A.	1.31	31.09	2.35	3.07
220	P-83A	CB-83A	TEE-83A	DA#23	0.09	0.90	0.08	0.08	30.00	2.40	0.19
221	P-83	MH-83	TEE-83A		N.A.	N.A.	N.A.	1.22	30.88	2.35	2.88
222	P-82	SDRC-82A	MH-83		N.A.	N.A.	N.A.	1.22	30.26	2.40	2.94
223	P-82A	PLUG-82A	SDRC-82A	NW1/4 STORE R	0.58	0.90	0.52	0.52	30.00	2.40	1.25
224	P-82	MH-82	SDRC-82A		N.A.	N.A.	N.A.	0.70	30.16	2.40	1.68

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
225	P-82D	PLUG-82	MH-82	MALL& DA#22	0.78	0.90	0.70	0.70	30.00	2.40	1.68
226				FUTURE STORE LL							
227	P-66	MH-66	PLUG-66		N.A.	N.A.	N.A.	5.80	33.15	2.25	13.04
228	P-65	CB-65	MH-66	DA#21	1.07	0.85	0.91	5.80	33.05	2.25	13.04
229	P-64	CB-64	CB-65	DA#20	1.07	0.85	0.91	4.89	32.68	2.25	11.00
230	P-63	CB-63	CB-64	DA#19	2.15	0.85	1.83	3.98	32.24	2.30	9.15
231	P-62	MH-62	CB-63		N.A.	N.A.	N.A.	2.15	31.65	2.30	4.95
232	P-61	MH-61	MH-62		N.A.	N.A.	N.A.	0.61	30.10	2.40	1.47
233	P-61A	PLUG-61A	MH-61	N1/2 STORE S	0.68	0.90	0.61	0.61	30.00	2.40	1.47
234	P-60	CB-60	MH-62	SW1/4 STORE S	0.34	0.90	0.31	1.54	30.75	2.35	3.62
235	P-59	CB-59	CB-60	DA #18	0.33	0.90	0.30	1.23	30.28	2.40	2.96
236	P-59B	CB-59B	CB-59	DA #18B	0.32	0.90	0.29	0.94	30.14	2.40	2.25
237	P-59A	PLUG-59A	CB-59B	MALL	0.72	0.90	0.65	0.65	30.00	2.40	1.56
238											
239											
240		WEST 1/2 MALL		PENNEYS-DILLARDS LL							
241	P-55	CB-55	PLUG-55	DA#17	1.37	0.85	1.16	11.47	65.17	1.30	14.91
242	P-41	CB-41	CB-55	DA#16	2.38	0.85	2.02	5.60	63.78	1.32	7.39
243	P-54	MH-54	CB-41		N.A.	N.A.	N.A.	3.57	61.78	1.36	4.86
244				PENNEYS LL							
245	P-53	MH-53	MH-54		N.A.	N.A.	N.A.	0.41	32.02	2.30	0.95
246	P-53B	BEND-53B	MH-53		N.A.	N.A.	N.A.	0.41	30.16	2.40	0.99
247	P-53A	PLUG-53A	BEND-53B	SE1/4 STORE P	0.46	0.90	0.41	0.41	30.00	2.40	0.99
248				DILLARDS-PENNEYS LL							
249	P-52	SDRC-52A	MH-54		N.A.	N.A.	N.A.	3.16	61.40	1.38	4.36
250	P-52A	PLUG-52A	SDRC-52A	W1/2 STORE P	0.92	0.90	0.83	0.83	30.00	2.40	1.99
251	P-52	MH-52	SDRC-52A		N.A.	N.A.	N.A.	2.33	60.78	1.38	3.22
252	P-51	CB-51	MH-52	DA#15	0.35	0.90	0.32	1.11	60.78	1.38	1.53

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
253	P-51A	PLUG-51	CB-51	MALL	0.88	0.90	0.79	0.79	30.00	2.40	1.90
254				DILLARDS LL							
255	P-49	SDRC-50	MH-52		N.A.	N.A.	N.A.	1.22	59.41	1.42	1.74
256	P-50	PLUG-50	SDRC-50	SE1/4 STORE D	0.61	0.90	0.55	0.55	30.00	2.40	1.32
257	P-49	MH-49	SDRC-50		N.A.	N.A.	N.A.	0.68	54.50	1.50	1.01
258	P-48	SDRC-48	MH-49		N.A.	N.A.	N.A.	0.68	53.05	1.54	1.04
259	P-48A	PLUG-48	SDRC-48	SW1/4 STORE D	0.61	0.90	0.55	0.55	30.00	2.40	1.32
260	P-48	MH-47	SDRC-48		N.A.	N.A.	N.A.	0.13	32.37	2.30	0.29
261	P-47	CB-47	MH-47	DA#14 DOCK	0.14	0.90	0.13	0.13	30.00	2.40	0.30
262				DILLARDS LL							
263	P-46	CB-46	CB-55	DA#13	1.02	0.85	0.87	4.71	32.87	2.25	10.60
264	P-45	CB-45	CB-46	DA#12	0.90	0.85	0.77	3.84	31.79	2.30	8.84
265	P-44	CB-44	CB-45	DA#11	1.36	0.85	1.16	3.08	30.62	2.35	7.23
266	P-43	CB-43	CB-44	DA#10	1.13	0.85	0.96	1.92	30.39	2.40	4.61
267	P-42	CB-42	CB-43	DA#9	1.13	0.85	0.96	0.96	30.00	2.40	2.31
268				WARDS-DILLARDS UL							
269	P-29	MH-29	PLUG-29		N.A.	N.A.	N.A.	2.67	32.34	2.30	6.13
270	P-28	SDRC-29A	MH-29		N.A.	N.A.	N.A.	2.67	31.94	2.30	6.13
271	P-29A	PLUG-29A	SDRC-29A	NW1/4STORE D	0.62	0.90	0.56	0.56	30.00	2.40	1.34
272	P-28	SDRC-28A	SDRC-29A		N.A.	N.A.	N.A.	2.11	31.12	2.35	4.95
273	P-28A	PLUG-28A	SDRC-28A	W1/2W&N1/4D	1.27	0.90	1.14	1.41	30.00	2.40	3.38
274	P-28	MH-28	SDRC-28A		N.A.	N.A.	N.A.	0.70	30.33	2.40	1.68
275	P-27	PLUG-27	MH-28	MALL & DA#8	0.78	0.90	0.70	0.70	30.00	2.40	1.68
276				WARDS LL							
277	P-09	TEE-13A	PLUG-13		N.A.	N.A.	N.A.	9.69	35.75	2.10	20.36
278	P-13A	CB-13A	TEE-13A	DA#7	0.31	0.85	0.26	0.26	30.00	2.40	0.63
279	P-09	TEE-10	TEE-13A		N.A.	N.A.	N.A.	9.43	34.89	2.15	20.27
280	P-10	CB-10	TEE-10	TBA & DA # 6	0.67	0.85	0.57	0.57	30.00	2.40	1.37

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	A	B	C	D	E	F	G	H	I	J	K
281	P-09	MH-09	TEE-10		N.A.	N.A.	N.A.	8.86	34.31	2.20	19.49
282	P-08	CB-08	MH-09	DA # 5	4.17	0.85	3.54	8.86	33.76	2.20	19.49
283	P-06	CB-06	CB-08	DA # 4	0.60	0.85	0.51	2.04	30.63	2.35	4.79
284	P-05	CB-05	CB-06	DA # 3	1.80	0.85	1.53	1.53	30.00	2.40	3.67
285	P-07	MH-07	CB-08		N.A.	N.A.	N.A.	3.28	33.14	2.25	7.37
286	P-04	MH-04	MH-07	1/3 CINEMA	0.30	0.90	0.27	1.24	32.17	2.30	2.86
287	P-04A	CB-04A	MH-04	MALL & DA # 2	1.08	0.90	0.97	0.97	30.00	2.40	2.33
288	P-03	MH-03	MH-07	2/3 CINEMA	0.60	0.90	0.54	2.03	32.53	2.25	4.58
289	P-01	PLUG-01	MH-03		N.A.	N.A.	N.A.	0.92	31.82	2.30	2.11
290	P-02	MH-02	MH-03	E1/2 STORE W	0.64	0.90	0.58	0.58	30.00	2.40	1.38
291	P-01	MH-01 DOC	PLUG-01		N.A.	N.A.	N.A.	0.92	30.76	2.35	2.16
292	P-01A	P-01A DOC	MH-01	MALL	0.65	0.90	0.59	0.59	30.00	2.40	1.40
293	P-01B	CB-01 DOC	MH-01	DA # 1	0.37	0.90	0.33	0.33	30.00	2.40	0.80
294	END			END							
295											
296		The above Pipe information is the limits of the Arrowhead Mall Onsite stormdrain system.									
297											
298		NOTES:									
299											
300		1. UPPER LEVEL FINISH FLOOR (UL) ELEV=1225.0 except DILLARDS =1225.083									
301		2. LOWER LEVEL FINISH FLOOR (LL) ELEV=1207.5 except DILLARDS =1207.583									
302		3. AC PARCELS (ASSOCIATED COMMERCIAL) DATA SHOWN IS MAXIMUM									
303		RUNOFF PERMITTED FROM FUTURE DEVELOPMENT									

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
1											
2											
3											
4				***FINAL***							
5	PIPE		DIA.	PIPE	DEPTH	INLET	FLOW	INLET	30min\100yr	BASIN	10min\100yr
6	CAPACITY	Q/Qo	Do	LENGTH	D/Do	HEAD/	VELOCITY	RIM	RIM ELEV	INLET	INFLOW
7	'Qo'	%	IN.	FT	%	CROWN	ft/sec.	ELEV	-HGL ELEV	TYPE	DEPTH IN.
8	STRAIGHT OUTFALL TO SKUNK CREEK										
9	IMPROVEMENT DISTRICT NO. 57										
10											
11	188.76	124	96	822.5	79.22	-1.7	5.61	1197.84	11.85	NA	NA
12	132.20	177	84	314	104.65	0.3	6.08	1195.98	8.87	NA	NA
13	132.20	177	84	42	105.20	0.4	6.08	1195.98	8.81	NA	NA
14	132.20	155	84	574	110.18	0.7	5.31	1197.38	9.62	NA	NA
15	170.63	103	84	254	110.43	0.7	4.57	1203.25	15.29	NA	NA
16	170.63	104	84	202	111.09	0.8	4.63	1202.00	13.85	NA	NA
17	170.63	98	84	203	111.01	0.8	4.33	1203.25	14.96	NA	NA
18	89.69	186	66	183	148.51	2.7	7.02	1203.50	14.68	NA	NA
19											
20	The above Pipe information is the limits of the Improvment District No. 57										
21											
22	ARROWHEAD TOWNE CENTER OUTFALL										
23	612.92	27	66	216	35	-3.6	23.38	1202.50	12.73	NA	NA
24	41.59	0	15	23	5	-1.2	0.33	1202.50	2.69	GRATE	0.7
25	612.92	27	66	13	35	-3.6	23.37	1202.50	12.30	NA	NA
26	42.50	0	15	22	5	-1.2	0.28	1202.50	2.69	GRATE	0.6
27											
28											

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
29											
30	664.00	25	66	23	35.00	-3.6	23.36	1202.70	11.71	NA	NA
31	36.49	3	15	20	11.50	-1.1	14.69	1202.50	2.61	GRATE	2.9
32	162.73	61	66	99	77.67	-1.2	5.07	1203.20	9.17	NA	NA
33	67.95	1	15	9	10.00	-1.1	12.19	1203.61	3.10	GRATE	1.3
34	7.00	8	15	48	18.40	-1.0	4.49	1203.61	2.52	GRATE	1.8
35	162.73	61	66	60	78.08	-1.2	5.03	1204.53	10.36	NA	NA
36	11.38	66	18	8	88.67	-0.2	4.27	1204.00	9.72	NA	NA
37	115.07	82	66	72	133.78	1.9	3.95	1205.50	8.19	NA	NA
38	32.67	13	24	81	88.50	-0.2	1.32	1203.50	9.22	NA	NA
39	115.07	81	66	216	79.09	-1.2	4.70	1208.80	14.28	NA	NA
40	22.75	32	18	24	38.00	-0.9	4.06	1209.00	13.31	NA	NA
41	15.44	3	15	39	11.50	-1.1	6.10	1208.80	3.11	GRATE	1.6
42	115.07	76	66	129	79.90	-1.1	4.41	1208.26	13.57	NA	NA
43	67.94	6	24	64	17.20	-1.7	13.20	1207.00	9.69	NA	NA
44	115.07	74	66	249	77.09	-1.3	4.50	1207.66	12.87	NA	NA
45	15.88	67	15	39	59.00	-0.5	8.71	1206.88	1.97	3X GRATE	7.5
46	115.07	69	66	284	76.27	-1.3	4.17	1205.46	10.44	NA	NA
47	24.50	20	24	64	31.00	-1.4	1.60	1206.00	9.79	NA	NA
48	3.60	182	18	24	100.00	0.0	3.70	1205.50	9.66	NA	NA
49	171.65	41	60	111	78.59	-1.1	4.28	1204.50	9.33	NA	NA
50	22.85	63	36	16	56.00	-1.3	2.03	1204.75	10.01	NA	NA
51	171.65	33	60	20	59.31	-2.0	4.89	1204.35	10.07	NA	NA
52	63.65	0	15	9	39.20	-0.8	0.44	1204.15	2.26	2X GRATE	0.6
53	46.18	2	18	46	11.50	-1.3	9.43	1204.15	2.58	2X GRATE	1.9
54	109.29	51	60	96	54.95	-2.3	5.36	1203.70	9.28	NA	NA
55	22.12	5	15	6	14.50	-1.1	13.86	1203.50	2.57	3X GRATE	1.6
56	15.88	22	15	39	31.00	-0.9	11.64	1203.50	2.36	3X GRATE	3.6

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
57	171.65	31	60	69	52.09	-2.4	5.34	1204.08	9.54	NA	NA
58	24.50	21	24	68	31.00	-1.4	1.60	1205.00	9.97	NA	NA
59	89.24	55	60	27	53.72	-2.3	4.75	1204.09	9.45	NA	NA
60	61.74	1	15	9	10.00	-1.1	9.14	1203.89	2.63	GRATE	2.1
61	27.92	13	15	44	24.00	-0.9	2.91	1203.89	2.45	2X GRATE	4.5
62	171.65	27	60	91	48.20	-2.6	5.02	1204.46	9.70	NA	NA
63	89.24	53	60	131	48.31	-2.6	2.40	1204.84	9.94	NA	NA
64	24.50	21	24	63	31.00	-1.4	1.60	1205.00	9.77	NA	NA
65	89.24	48	60	88	49.00	-2.6	4.68	1205.55	10.54	NA	NA
66	22.12	3	15	16	11.50	-1.1	8.31	1205.15	2.61	GRATE	2.0
67	20.69	8	15	67	19.60	-1.0	14.32	1205.56	3.15	GRATE	2.5
68	4.95	19	15	80	29.40	-0.9	3.74	1205.85	2.91	GRATE	2.1
69	4.95	5	15	54	14.50	-1.1	3.05	1205.59	2.57	GRATE	1.0
70	89.24	47	60	217	47.62	-2.6	4.55	1206.23	11.07	NA	NA
71	24.50	7	24	72	18.40	-1.6	0.55	1208.00	12.63	NA	NA
72	89.24	46	60	74	48.20	-2.6	4.41	1206.54	11.27	NA	NA
73	22.12	5	15	5	14.50	-1.1	14.96	1206.33	2.57	GRATE	1.4
74	15.88	4	15	39	14.50	-1.1	9.70	1206.33	2.57	GRATE	2.2
75	67.38	59	54	30	53.00	-2.1	4.72	1207.09	11.31	NA	NA
76	24.50	7	24	68	28.00	-1.4	0.55	1208.00	12.12	NA	NA
77	67.38	58	54	180	53.00	-2.1	4.64	1207.99	12.04	NA	NA
78	24.29	3	15	75	11.50	-1.1	8.59	1207.79	3.41	GRATE	1.1
79	4.95	8	15	68	18.40	-1.0	3.16	1207.55	2.74	GRATE	1.4
80	67.38	59	54	220	53.00	-2.1	4.70	1210.23	14.05	NA	NA
81	24.50	10	24	60	32.50	-1.3	0.80	1210.00	13.72	NA	NA
82	49.21	76	48	164	65.00	-1.4	4.53	1212.52	15.47	NA	NA
83	13.11	23	15	45	31.00	-0.9	10.00	1212.00	12.83	NA	NA
84	15.88	21	15	39	31.00	-0.9	11.04	1212.47	2.36	2X GRATE	4.4

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
85	49.21	66	48	39	63.78	-1.4	3.89	1211.38	14.34	NA	NA
86	24.50	10	24	68	49.00	-1.0	0.80	1211.00	13.85	NA	NA
87	49.21	63	48	115	64.25	-1.4	3.73	1211.80	14.62	NA	NA
88	15.88	17	15	39	28.60	-0.9	11.05	1211.04	2.39	GRATE	3.8
89	49.21	58	48	82	65.20	-1.4	3.27	1210.41	13.11	NA	NA
90	24.50	18	24	66	52.50	-0.9	1.41	1211.00	13.85	NA	NA
91	49.21	52	48	73	63.50	-1.5	3.09	1210.27	12.97	NA	NA
92	7.00	94	15	33	77.00	-0.3	5.34	1209.29	5.69	GRATE	3.5
93	13.41	32	15	83	38.00	-0.8	3.49	1208.90	2.74	GRATE	4.8
94	9.89	4	15	51	14.50	-1.1	5.54	1209.46	2.57	GRATE	1.1
95	49.21	41	48	206	61.50	-1.5	2.62	1210.17	12.74	NA	NA
96	15.84	18	15	39	29.40	-0.9	11.64	1209.41	2.38	GRATE	3.5
97	5.11	8	15	58	19.60	-1.0	3.49	1209.47	2.26	GRATE	1.1
98	34.47	53	42	97	56.66	-1.5	2.80	1210.21	12.66	NA	NA
99	24.50	13	24	63	23.50	-1.5	1.00	1211.00	13.58	NA	NA
100	34.47	45	42	80	57.89	-1.5	2.73	1210.80	13.13	NA	NA
101	15.88	21	15	39	31.00	-0.9	11.10	1210.13	2.36	GRATE	4.4
102	34.47	37	42	53	59.14	-1.4	2.25	1211.23	13.46	NA	NA
103	38.54	33	42	16	61.43	-1.3	2.14	1210.00	12.13	NA	NA
104											
105	WEST 1/2 MALL										
106	106.53	50	54	94	100.00	-0.1	3.35	1203.09	8.86	NA	NA
107	22.12	7	15	7	176.58	1.0	1.26	1202.50	8.16	GRATE	2.6
108	15.88	3	15	39	71.70	-0.4	0.45	1202.50	8.16	GRATE	1.3
109	106.53	49	54	79	100.00	-0.1	3.28	1203.44	9.06	NA	NA
110	31.42	47	30	24	100.00	-0.1	2.99	1203.00	8.49	NA	NA
111	106.53	46	54	43	100.00	-0.1	3.11	1203.83	9.33	NA	NA
112	24.50	19	24	69	100.00	0.6	1.45	1203.00	8.37	NA	NA

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
113	106.53	44	54	232	100.00	-0.5	2.96	1204.53	9.81	NA	NA
114	22.12	7	15	6	18.40	-1.0	12.63	1204.33	2.52	GRATE	2.6
115	15.88	6	15	39	16.00	-1.1	7.15	1204.33	2.55	GRATE	1.8
116	67.38	68	54	226	100.00	-0.5	2.90	1205.53	10.61	NA	NA
117	24.50	8	24	60	100.00	-0.1	0.65	1206.00	10.97	NA	NA
118	67.38	66	54	15	100.00	-0.4	2.81	1205.61	10.58	NA	NA
119	67.38	67	54	65	100.00	-0.3	2.86	1205.89	10.73	NA	NA
120	7.00	29	15	68	100.00	0.7	1.67	1206.50	11.18	NA	NA
121	67.38	66	54	206	100.00	-0.3	2.81	1206.66	11.31	NA	NA
122	4.95	12	15	75	24.00	-0.9	3.56	1206.94	2.83	GRATE	0.9
123	4.95	6	15	68	17.20	-1.0	2.49	1206.90	2.54	GRATE	0.9
124	77.82	57	48	123	100.00	-1.2	3.52	1207.20	11.65	NA	NA
125	22.12	3	15	12	11.50	-1.1	8.31	1206.91	2.61	GRATE	1.4
126	15.88	3	15	39	13.00	-1.1	7.20	1206.91	2.59	GRATE	1.3
127	82.35	53	48	68	100.00	-1.3	3.50	1207.91	12.21	NA	NA
128	57.63	3	24	64	13.00	-1.7	9.47	1209.50	11.26	NA	NA
129	82.35	53	48	175	100.00	-1.5	3.45	1209.98	14.04	NA	NA
130	57.63	3	24	64	13.00	-1.7	9.42	1210.00	11.82	NA	NA
131	82.35	51	48	37	100.00	-1.5	3.34	1210.41	14.34	NA	NA
132	11.06	54	15	24	50.00	-0.6	9.78	1211.00	4.78	NA	NA
133	15.68	26	15	38	100.00	-0.8	3.36	1209.66	2.31	GRATE	5.0
134	69.60	49	48	164	100.00	-1.7	2.73	1211.11	14.86	NA	NA
135	56.23	6	24	68	17.20	-1.7	11.34	1211.00	12.19	NA	0.33
136	69.60	45	48	29	100.00	-1.6	2.51	1211.22	14.86	NA	NA
137	15.88	34	15	39	100.00	-0.8	4.37	1210.44	2.24	GRATE	5.9
138	77.82	37	48	219	100.00	-2.0	2.28	1212.08	15.55	NA	NA
139	21.00	13	15	73	100.00	-0.9	2.29	1212.01	3.02	GRATE	0.9
140	4.95	50	15	57	50.00	-0.6	4.06	1212.06	2.47	GRATE	1.0

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
141	4.95	43	15	58	45.00	-0.7	3.96	1211.75	1.93	GRATE	3.2
142	77.82	35	48	128	100.00	-2.2	2.15	1212.60	15.93	NA	NA
143	54.35	3	24	74	11.50	-1.8	8.35	1213.00	13.30	NA	NA
144	77.82	33	48	91	43.40	-2.3	3.77	1213.02	16.22	NA	NA
145	15.88	27	15	39	100.00	-0.8	3.56	1212.26	2.31	GRATE	5.2
146	76.24	29	48	177	36.21	-2.6	3.77	1213.17	16.24	NA	NA
147	22.12	2	15	7	11.50	-1.1	6.10	1213.45	2.61	GRATE	1.1
148	6.91	6	15	39	16.00	-1.1	3.16	1213.03	2.55	GRATE	1.0
149	76.24	27	48	24	34.87	-2.6	3.48	1213.70	16.66	NA	NA
150	5.57	28	18	89	35.00	-1.0	2.91	1213.56	13.84	NA	NA
151	5.57	28	18	222	8.99	-1.4	10.52	1214.53	14.67	NA	NA
152	5.57	28	18	51	35.00	-1.0	2.97	1214.57	14.10	NA	NA
153											
154											
155											
156	The above Pipe information is the limits of the Ring Road Submittal of December, 1991										
157											
158	ARROWHEAD TOWNE CENTER ONSITE SYSTEM										
159	EAST 1/2 MALL		PENNEYS LL								
160	11.38	66	18	77	59.93	-0.6	4.27	1203.50	8.88	GRATE	2.7
161	7.00	31	15	181	-71.31	-2.1	1.75	1204.33	9.44	GRATE	4.5
162	7.00	66	15	210	-35.80	-1.7	3.74	1203.50	7.88	2X GRATE	5.3
163	PENNEYS-MERVYN'S UL										
164	25.67	28	18	331	35.00	-1.0	13.51	1220.81	8.31	NA	NA
165	8.04	91	18	145	74.00	-0.4	4.15	1223.66	9.85	NA	NA
166	8.57	4	15	75	13.00	-1.1	4.40	1220.95	6.83	GRATE	1.3
167	8.04	87	18	32	78.11	-0.3	3.97	1223.64	9.60	NA	NA
168	8.04	87	18	117	75.44	-0.4	3.97	1224.10	9.52	NA	NA

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
169	11.28	9	15	82	19.60	-1.0	8.10	1224.00	7.92	NA	NA
170	9.89	16	15	52	76.00	-0.3	1.65	1223.50	8.79	GRATE	0.8
171	7.34	20	15	40	30.20	-0.9	4.72	1224.00	8.44	NA	NA
172	7.00	21	15	32	31.00	-0.9	4.72	1224.00	8.11	NA	NA
173	8.04	56	18	50	64.02	-0.5	2.55	1223.96	9.20	NA	NA
174	8.84	12	12	99	23.00	-0.8	9.62	1224.00	4.27	NA	NA
175	8.04	44	18	137	45.00	-0.8	4.59	1223.95	8.79	NA	NA
176	8.56	8	12	102	19.60	-0.8	9.08	1224.00	3.80	NA	NA
177	8.04	37	18	151	42.00	-0.9	4.37	1224.03	8.16	NA	NA
178	15.64	7	15	54	18.40	-1.0	9.15	1223.50	5.08	GRATE	0.7
179	6.12	16	12	32	27.80	-0.7	6.33	1224.00	4.48	NA	NA
180	8.04	23	18	66	31.00	-1.0	4.11	1224.03	8.00	NA	NA
181	7.55	24	12	47	31.00	-0.7	9.24	1221.60	3.42	NA	NA
182	7.90	7	12	33	17.20	-0.8	6.60	1224.50	5.08	NA	NA
183	7.55	17	12	36	38.60	-0.6	4.85	1225.00	5.37	NA	NA
184	MERVYN'S- ROBINSONS LL										
185	14.70	46	24	310	31.04	-1.4	2.16	1204.25	8.17	NA	NA
186	4.95	14	15	6	34.00	-0.8	2.08	1204.25	5.30	GRATE	2.2
187	4.95	28	15	48	43.00	-0.7	2.76	1204.25	4.97	GRATE	3.4
188	5.69	95	18	132	45.77	-0.8	3.05	1204.99	8.52	NA	NA
189	7.00	10	15	4	39.76	-0.8	0.57	1204.73	8.16	NA	NA
190	7.00	3	15	37	18.18	-1.0	0.16	1203.50	6.83	GRATE	0.9
191	10.49	5	15	17	17.23	-1.0	0.42	1206.00	9.33	NA	NA
192	5.69	86	18	115	47.35	-0.8	2.76	1206.52	9.74	NA	NA
193	7.00	7	15	19	29.70	-0.9	0.42	1206.00	9.12	NA	NA
194	5.69	81	18	55	50.80	-0.7	2.59	1206.51	9.54	NA	NA
195	5.69	82	18	122	50.78	-0.7	2.64	1206.57	9.29	NA	NA
196	7.00	35	15	82	-8.46	-1.4	2.02	1206.00	8.52	NA	NA

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
197	7.00	7	15	19	-15.57	-1.4	0.42	1206.00	8.42	NA	NA
198	7.00	29	15	19	-14.41	-1.4	1.64	1206.00	8.40	NA	NA
199	5.69	50	18	116	42.91	-0.9	1.60	1206.51	9.06	NA	NA
200	12.12	10	15	26	-22.24	-1.5	1.02	1206.00	8.44	NA	NA
201	5.69	37	18	403	-1.32	-1.5	1.18	1206.62	8.83	NA	NA
202	7.00	18	15	26	-33.72	-1.7	1.02	1206.00	8.10	NA	NA
203	5.69	19	18	46	-2.03	-1.5	0.62	1206.72	8.82	NA	NA
204	5.69	22	18	249	-34.86	-2.0	0.71	1206.68	8.65	NA	NA
205	3.50	36	15	26	-66.36	-2.1	1.02	1206.00	7.86	NA	NA
206	MERVYN'S-ROBINSONS LL										
207	36.13	40	36	87	49.89	-1.5	2.03	1203.50	8.73	GRATE	4.9
208	3.50	54	15	294	-54.14	-1.9	1.53	1203.80	8.71	GRATE	4.2
209	22.22	52	30	208	28.60	-1.8	2.33	1204.00	8.99	GRATE	4.1
210	12.25	82	24	169	8.98	-1.8	3.22	1203.94	8.54	GRATE	5.5
211	12.25	63	24	188	-0.08	-2.0	2.47	1203.84	8.15	GRATE	5.0
212	12.25	47	24	169	-11.48	-2.2	1.84	1204.00	8.12	GRATE	4.6
213	5.69	67	18	200	-60.19	-2.4	2.17	1205.10	8.89	GRATE	2.2
214	5.69	57	18	59	-60.21	-2.4	1.82	1205.18	8.82	GRATE	2.2
215	3.50	73	15	171	-100.00	-2.5	2.09	1205.69	9.00	GRATE	5.1
216	FUTURE-ROBINSONS UL										
217	16.18	19	15	1	29.40	-0.9	12.50	1214.34	15.14	NA	NA
218	13.99	22	15	104	31.00	-0.9	10.00	1218.05	14.67	NA	NA
219	12.12	25	15	69	35.00	-0.8	8.32	1220.57	15.07	NA	NA
220	12.12	2	15	87	10.00	-1.1	2.64	1220.80	13.00	GRATE	0.9
221	12.12	24	15	115	31.00	-0.9	9.38	1223.41	14.51	NA	NA
222	11.06	27	15	295	35.00	-0.8	7.97	1223.00	6.67	NA	NA
223	12.12	10	15	29	22.00	-1.0	7.29	1223.00	5.97	NA	NA
224	11.06	15	15	45	27.00	-0.9	6.86	1223.00	5.65	NA	NA

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
225	11.06	15	15	64	27.00	-0.9	6.86	1223.00	4.05	NA	NA
226	FUTURE STORE LL										
227	47.26	28	42	233	49.77	-1.8	2.89	1204.91	7.01	NA	NA
228	35.40	37	36	26	42.99	-1.7	4.50	1204.50	6.49	2X GRATE	3.3
229	21.77	51	30	100	50.00	-1.3	4.48	1204.50	5.79	2X GRATE	3.3
230	21.77	42	30	113	45.00	-1.4	4.23	1204.50	5.64	2X GRATE	5.2
231	12.00	41	24	125	45.00	-1.1	3.57	1208.62	9.19	NA	NA
232	3.43	43	15	137	45.00	-0.7	2.72	1206.43	6.26	NA	NA
233	3.43	43	15	16	45.00	-0.7	2.72	1206.00	5.69	NA	NA
234	5.57	65	18	163	56.00	-0.7	3.01	1205.00	5.14	GRATE	2.2
235	5.57	53	18	94	50.00	-0.8	3.35	1204.00	4.00	GRATE	2.2
236	3.43	66	15	27	59.00	-0.5	3.10	1204.00	3.82	GRATE	2.1
237	3.43	45	15	15	65.26	-0.4	1.81	1204.00	3.71	NA	NA
238								0			
239											
240	WEST 1/2 MALL		PENNEYS-DILLARDS LL								
241	21.77	68	30	134	93.46	-0.2	3.04	1202.90	8.14	2X GRATE	3.8
242	12.00	62	24	196	82.21	-0.4	2.35	1202.90	7.86	2X GRATE	5.5
243	12.00	40	24	185	68.65	-0.6	1.55	1206.70	11.49	NA	NA
244	PENNEYS LL										
245	3.43	28	15	179	26.12	-0.9	0.78	1206.20	10.86	NA	NA
246	3.43	29	15	90	18.30	-1.0	0.81	1206.00	10.54	NA	NA
247	8.57	12	15	8	16.83	-1.0	0.81	1206.00	10.44	NA	NA
248	DILLARDS-PENNEYS LL										
249	5.57	78	18	57	61.32	-0.6	2.47	1206.70	11.31	NA	NA
250	8.57	23	15	26	32.07	-0.8	1.62	1206.00	10.49	NA	NA
251	5.57	58	18	68	60.73	-0.6	1.82	1206.44	10.89	NA	NA
252	12.12	13	15	104	24.00	-0.9	8.89	1206.00	7.69	GRATE	2.3

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
253	22.88	8	15	35	19.60	-1.0	15.49	1206.00	4.00	NA	NA
254	DILLARDS LL										
255	3.43	51	15	116	44.33	-0.7	1.42	1205.79	10.07	NA	NA
256	8.57	15	15	31	16.01	-1.0	1.07	1206.00	10.17	NA	NA
257	3.43	30	15	243	9.75	-1.1	0.83	1205.68	9.81	NA	NA
258	3.43	30	15	74	4.85	-1.2	0.85	1205.78	9.79	NA	NA
259	8.57	15	15	31	-23.48	-1.5	1.07	1206.00	9.90	NA	NA
260	3.43	8	15	293	-43.01	-1.8	0.24	1206.00	9.91	NA	NA
261	3.43	9	15	35	-41.68	-1.8	0.25	1203.58	7.39	GRATE	1.2
262	DILLARDS LL										
263	12.00	88	24	305	88.74	-0.2	3.37	1202.30	6.87	GRATE	4.4
264	12.00	74	24	181	83.78	-0.3	2.81	1202.30	6.54	GRATE	4.1
265	12.00	60	24	162	76.39	-0.5	2.30	1203.00	7.00	GRATE	5.4
266	45.84	10	24	143	22.00	-1.6	10.48	1203.00	3.06	GRATE	4.8
267	10.24	23	18	123	31.00	-1.0	5.22	1204.00	2.54	GRATE	4.8
268	WARDS-DILLARDS UL										
269	9.89	62	15	326	56.00	-0.6	7.35	1221.45	8.63	NA	NA
270	7.00	88	15	118	42.11	-0.7	5.00	1223.26	9.43	NA	NA
271	8.57	16	15	31	13.82	-1.1	1.09	1223.00	9.06	NA	NA
272	7.00	71	15	200	-29.67	-1.6	4.04	1223.27	8.34	NA	NA
273	8.57	39	15	31	-53.10	-1.9	2.75	1223.00	7.90	NA	NA
274	7.00	24	15	74	84.80	-0.2	1.56	1223.63	6.53	NA	NA
275	10.79	16	15	135	27.00	-0.9	6.86	1223.00	3.41	NA	NA
276	WARDS LL										
277	76.24	27	48	68	58.67	-1.7	2.75	1213.18	15.03	NA	1.45
278	46.87	1	15	26	10.00	-1.1	8.59	1212.80	3.83	GRATE.	2.0
279	76.24	27	48	165	50.77	-2.0	3.23	1212.98	14.75	NA	NA
280	171.37	1	15	10	100.00	NA	NA	1212.95	2.69	GRATE	3.4

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	L	M	N	O	P	Q	S	T	X	Y	Z
281	76.24	26	48	182	35.00	-2.6	5.17	1208.83	10.79	NA	NA
282	76.24	26	48	169	35.00	-2.6	5.17	1204.50	5.96	3X GRATE	6.4
283	11.03	43	18	186	45.00	-0.8	6.16	1206.10	3.24	2X GRATE	2.2
284	3.43	107	15	113	100.00	0.0	2.99	1205.70	2.43	3X GRATE	3.7
285	12.00	61	24	129	56.00	-0.9	3.45	1206.56	6.99	NA	NA
286	3.43	83	15	225	67.00	-0.4	2.33	1208.28	6.22	NA	NA
287	3.43	68	15	247	49.54	-0.6	1.90	1206.83	4.40	PED GRAT	1.1
288	5.57	82	18	95	69.71	-0.5	2.59	1207.10	7.28	NA	NA
289	3.43	62	15	73	74.95	-0.3	1.72	1204.00	4.01	NA	NA
290	3.43	40	15	200	81.26	-0.2	1.31	1206.00	5.60	NA	NA
291	3.43	63	15	112	69.96	-0.4	1.76	1203.50	3.30	NA	NA
292	3.43	41	15	52	69.66	-0.4	1.14	1203.50	3.18	GRATE	3.4
293	3.43	23	15	15	75.24	-0.3	0.81	1203.50	3.20	GRATE	2.3
294											
295											
296	The above Pipe information is the limits of the Arrowhead Mall Onsite stormdrain system.										
297											
298	NOTES:										
299											
300	1. UPPER LEVEL FINISH FLOOR (UL) ELEV=1225.0 except DILLARDS =1225.083										
301	2. LOWER LEVEL FINISH FLOOR (LL) ELEV=1207.5 except DILLARDS =1207.583										
302	3. AC PARCELS (ASSOCIATED COMMERCIAL) DATA SHOWN IS MAXIMUM										
303	RUNOFF PERMITTED FROM FUTURE DEVELOPMENT										

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
1												
2												
3												
4	***FINAL***											
5	INLET	OUTLET	FRICTION	HEAD	MINOR	Tt		PIPE	INLET	OUTLET	PIPE	COVER
6	HGL	HGL	SLOPE	LOSS	LOSS	(L/V)	MANNING	SLOPE	INVERT	INVERT	CROWN	@ INLET
7	ELEV	ELEV	%	FT	FT	(min)	'n'	ft/ft	ELEV	ELEV	@ INLET	FT
8	STRAIGHT OUTFALL TO SKUNK CREEK											
9	IMPROVEMENT DISTRICT NO. 57											
10												
11	1185.99	1185.00	0.0659	0.54	0.00	2.44	0.013	0.0004	1179.65	1179.30	1187.65	9.94
12	1187.11	1186.69	0.1343	0.42	0.70	0.86	0.013	0.0004	1179.79	1179.65	1186.79	8.94
13	1187.17	1187.11	0.1343	0.06	0.00	0.12	0.013	0.0004	1179.80	1179.79	1186.80	8.93
14	1187.76	1187.17	0.1025	0.59	0.01	1.80	0.013	0.0004	1180.05	1179.80	1187.05	10.08
15	1187.96	1187.77	0.0757	0.19	0.01	0.93	0.013	0.0007	1180.23	1180.05	1187.23	15.77
16	1188.15	1187.99	0.0776	0.16	0.03	0.73	0.013	0.0007	1180.38	1180.23	1187.38	14.37
17	1188.29	1188.15	0.0682	0.14	0.00	0.78	0.013	0.0007	1180.52	1180.38	1187.52	15.48
18	1188.82	1188.37	0.2467	0.45	0.08	0.43	0.013	0.0007	1180.65	1180.52	1186.15	17.10
19												
20	The above Pipe information is the limits of the Improvment District No. 57											
21												
22	ARROWHEAD TOWNE CENTER OUTFALL											
23	1189.77	1189.67	0.2467	0.53	0.85	0.15	0.013	0.0333	1187.84	1180.65	1193.34	8.91
24	1199.81	1189.87	0.0003	0.00	0.10	1.15	0.012	0.3535	1199.75	1191.62	1201.00	1.25
25	1190.20	1189.77	0.2465	0.03	0.00	0.01	0.013	0.0333	1188.28	1187.84	1193.78	8.47
26	1199.81	1190.30	0.0002	0.00	0.10	1.32	0.012	0.3691	1199.75	1191.63	1201.00	1.25
27												
28												

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
29												
30	1190.99	1190.30	0.2098	0.05	0.10	0.02	0.012	0.0333	1189.06	1188.28	1194.56	7.89
31	1199.89	1194.18	0.0239	0.00	3.19	0.02	0.012	0.2720	1199.75	1194.31	1201.00	1.25
32	1194.03	1194.18	0.0754	0.07	3.19	0.33	0.012	0.0020	1189.76	1189.56	1195.26	7.69
33	1200.51	1194.13	0.0165	0.00	0.10	0.01	0.012	0.9433	1200.38	1191.89	1201.63	1.73
34	1201.09	1200.61	0.0062	0.00	0.10	0.18	0.012	0.0100	1200.86	1200.38	1202.11	1.25
35	1194.17	1194.13	0.0744	0.04	0.10	0.20	0.012	0.0020	1189.88	1189.76	1195.38	8.90
36	1194.28	1194.27	0.4403	0.04	0.10	0.03	0.012	0.0100	1192.95	1192.87	1194.45	9.30
37	1197.31	1194.27	0.0666	0.05	0.10	0.30	0.012	0.0010	1189.95	1189.88	1195.45	9.80
38	1194.28	1197.41	0.0285	0.02	0.10	1.03	0.012	0.0178	1192.51	1191.07	1194.51	8.74
39	1194.52	1197.41	0.0649	0.14	0.10	0.77	0.012	0.0010	1190.17	1189.95	1195.67	12.88
40	1195.69	1194.62	0.3968	0.10	0.10	0.10	0.012	0.0400	1195.12	1194.16	1196.62	12.13
41	1205.69	1203.79	0.0041	0.00	0.10	0.11	0.012	0.0487	1205.55	1203.65	1206.80	1.75
42	1194.69	1194.62	0.0572	0.07	0.10	0.49	0.012	0.0010	1190.30	1190.17	1195.80	12.21
43	1197.31	1194.79	0.0286	0.02	0.10	0.08	0.012	0.0769	1196.97	1192.05	1198.97	7.78
44	1194.79	1194.79	0.0553	0.14	0.10	0.92	0.012	0.0010	1190.55	1190.30	1196.05	11.36
45	1204.91	1202.90	2.3334	0.91	0.10	0.07	0.012	0.0515	1204.17	1202.16	1205.42	1.21
46	1195.02	1194.89	0.0475	0.13	0.10	1.13	0.012	0.0010	1190.83	1190.55	1196.33	8.88
47	1196.21	1195.12	0.0420	0.03	0.10	0.67	0.012	0.0100	1195.59	1194.95	1197.59	8.16
48	1195.84	1196.31	0.3295	0.08	0.10	0.11	0.012	0.0010	1194.34	1194.32	1195.84	9.41
49	1195.17	1195.12	0.0612	0.07	0.10	0.43	0.012	0.0037	1191.24	1190.83	1196.24	8.01
50	1194.74	1195.27	0.0395	0.01	0.10	0.13	0.012	0.0010	1193.06	1193.04	1196.06	8.44
51	1194.28	1195.27	0.0403	0.01	0.10	0.07	0.012	0.0037	1191.31	1191.24	1196.31	7.79
52	1201.89	1194.38	0.0007	0.00	0.10	0.34	0.012	0.8278	1201.40	1193.95	1202.65	1.25
53	1201.57	1201.99	0.0077	0.00	0.10	0.08	0.012	0.1648	1201.40	1193.82	1202.90	1.00
54	1194.42	1194.38	0.0391	0.04	0.10	0.30	0.012	0.0015	1191.67	1191.31	1196.67	6.78
55	1200.93	1200.33	0.0212	0.00	0.10	0.01	0.012	0.1000	1200.75	1200.15	1202.00	1.25
56	1201.14	1201.03	0.2603	0.10	0.10	0.06	0.012	0.0515	1200.75	1198.74	1202.00	1.25

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
57	1194.53	1194.52	0.0345	0.02	0.10	0.22	0.012	0.0037	1191.93	1191.67	1196.93	6.90
58	1195.03	1194.63	0.0421	0.03	0.10	0.71	0.012	0.0100	1194.41	1193.73	1196.41	8.34
59	1194.64	1194.63	0.0307	0.01	0.10	0.09	0.012	0.0010	1191.95	1191.93	1196.95	6.89
60	1201.27	1194.74	0.0093	0.00	0.10	0.02	0.012	0.7789	1201.14	1194.13	1202.39	1.25
61	1201.44	1201.37	0.2603	0.11	0.10	0.25	0.012	0.1593	1201.14	1194.13	1202.39	1.25
62	1194.76	1194.74	0.0269	0.02	0.10	0.30	0.012	0.0037	1192.35	1191.95	1197.35	6.86
63	1194.90	1194.86	0.0278	0.04	0.10	0.91	0.012	0.0010	1192.48	1192.35	1197.48	7.11
64	1195.23	1195.00	0.0421	0.03	0.10	0.66	0.012	0.0100	1194.61	1193.98	1196.61	8.14
65	1195.01	1195.00	0.0234	0.02	0.10	0.31	0.012	0.0010	1192.56	1192.48	1197.56	7.74
66	1202.54	1200.94	0.0076	0.00	0.10	0.03	0.012	0.1000	1202.40	1200.80	1203.65	1.25
67	1202.42	1202.64	0.0631	0.04	0.10	0.08	0.012	0.0875	1202.17	1196.31	1203.42	1.89
68	1202.94	1202.54	0.0172	0.01	0.10	0.36	0.012	0.0050	1202.57	1202.17	1203.82	1.78
69	1203.02	1202.75	0.0010	0.00	0.10	0.30	0.012	0.0050	1202.84	1202.57	1204.09	1.25
70	1195.16	1195.11	0.0222	0.05	0.10	0.79	0.012	0.0010	1192.78	1192.56	1197.78	8.20
71	1195.37	1195.26	0.0050	0.00	0.10	2.17	0.012	0.0100	1195.00	1194.28	1197.00	10.75
72	1195.27	1195.26	0.0208	0.02	0.10	0.28	0.012	0.0010	1192.86	1192.78	1197.86	8.43
73	1203.76	1203.26	0.0248	0.00	0.10	0.01	0.012	0.1000	1203.58	1203.08	1204.83	1.25
74	1203.76	1201.75	0.0104	0.00	0.10	0.07	0.012	0.0515	1203.58	1201.57	1204.83	1.25
75	1195.78	1195.37	0.0349	0.01	0.10	0.11	0.012	0.0010	1193.39	1193.36	1197.89	8.95
76	1195.88	1195.88	0.0050	0.00	0.10	2.05	0.012	0.0100	1195.32	1194.64	1197.32	10.43
77	1195.96	1195.88	0.0336	0.06	0.10	0.65	0.012	0.0010	1193.57	1193.39	1198.07	9.67
78	1204.38	1196.06	0.0082	0.01	0.10	0.15	0.012	0.1205	1204.24	1195.20	1205.49	2.05
79	1204.81	1204.48	0.0031	0.00	0.10	0.36	0.012	0.0050	1204.58	1204.24	1205.83	1.47
80	1196.18	1196.06	0.0345	0.08	0.10	0.78	0.012	0.0010	1193.79	1193.57	1198.29	11.69
81	1196.28	1196.28	0.0105	0.01	0.10	1.25	0.012	0.0100	1195.63	1195.03	1197.63	12.12
82	1197.05	1196.28	0.0582	0.10	0.10	0.60	0.012	0.0010	1194.45	1194.29	1198.45	13.82
83	1199.17	1197.15	0.1921	0.09	0.10	0.08	0.012	0.0351	1198.78	1197.20	1200.03	11.72
84	1210.11	1208.10	0.2342	0.09	0.10	0.06	0.012	0.0515	1209.72	1207.71	1210.97	1.25

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
85	1197.04	1197.15	0.0429	0.02	0.10	0.17	0.012	0.0010	1194.49	1194.45	1198.49	12.64
86	1197.15	1197.14	0.0105	0.01	0.10	1.42	0.012	0.0100	1196.17	1195.49	1198.17	12.58
87	1197.18	1197.14	0.0396	0.05	0.10	0.51	0.012	0.0010	1194.61	1194.49	1198.61	12.94
88	1208.65	1206.64	0.1503	0.06	0.10	0.06	0.012	0.0515	1208.29	1206.28	1209.54	1.25
89	1197.30	1197.28	0.0341	0.03	0.10	0.42	0.012	0.0010	1194.69	1194.61	1198.69	11.47
90	1197.15	1197.40	0.0329	0.02	0.10	0.78	0.012	0.0100	1196.10	1195.44	1198.10	12.65
91	1197.30	1197.28	0.0271	0.02	0.10	0.39	0.012	0.0010	1194.76	1194.69	1198.76	11.26
92	1203.60	1203.27	0.8766	0.29	0.10	0.10	0.012	0.0100	1202.64	1202.31	1203.89	5.15
93	1206.17	1203.70	0.3748	0.31	0.10	0.40	0.012	0.0367	1205.69	1202.64	1206.94	1.71
94	1206.89	1206.27	0.0034	0.00	0.10	0.15	0.012	0.0200	1206.71	1205.69	1207.96	1.25
95	1197.43	1197.40	0.0172	0.04	0.10	1.31	0.012	0.0010	1194.97	1194.76	1198.97	10.95
96	1207.03	1205.03	0.1666	0.06	0.10	0.06	0.012	0.0513	1206.66	1204.66	1207.91	1.25
97	1207.22	1207.13	0.0037	0.00	0.10	0.28	0.012	0.0053	1206.97	1206.66	1208.22	1.00
98	1197.55	1197.53	0.0283	0.03	0.10	0.58	0.012	0.0010	1195.57	1195.47	1199.07	10.89
99	1197.42	1197.65	0.0165	0.01	0.10	1.05	0.012	0.0100	1196.95	1196.32	1198.95	11.80
100	1197.67	1197.65	0.0203	0.02	0.10	0.49	0.012	0.0010	1195.64	1195.57	1199.14	11.41
101	1207.77	1205.76	0.2370	0.09	0.10	0.06	0.012	0.0515	1207.38	1205.37	1208.63	1.25
102	1197.77	1197.77	0.0137	0.01	0.10	0.39	0.012	0.0010	1195.70	1195.64	1199.20	11.78
103	1197.87	1197.87	0.0137	0.00	0.10	0.12	0.012	0.0013	1195.72	1195.70	1199.22	10.53
104												
105	WEST 1/2	MALL										
106	1194.23	1194.18	0.0625	0.06	0.00	0.47	0.012	0.0025	1189.80	1189.56	1194.30	8.54
107	1194.34	1194.33	0.0491	0.00	0.10	0.09	0.012	0.1000	1192.13	1191.43	1193.38	8.87
108	1194.34	1194.33	0.0062	0.00	0.10	1.45	0.012	0.0515	1193.44	1191.43	1194.69	7.56
109	1194.38	1194.33	0.0599	0.05	0.10	0.40	0.012	0.0025	1189.98	1189.80	1194.48	8.71
110	1194.51	1194.48	0.1092	0.03	0.10	0.13	0.012	0.0050	1192.10	1191.98	1194.60	8.15
111	1194.50	1194.48	0.0539	0.02	0.10	0.23	0.012	0.0025	1190.09	1189.98	1194.59	8.99
112	1194.63	1194.60	0.0346	0.02	0.10	0.79	0.012	0.0100	1192.04	1191.34	1194.04	8.71

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
113	1194.72	1194.60	0.0489	0.11	0.10	1.31	0.012	0.0025	1190.68	1190.09	1195.18	9.10
114	1201.81	1201.21	0.0491	0.00	0.10	0.01	0.012	0.1000	1201.58	1200.98	1202.83	1.25
115	1201.78	1199.77	0.0157	0.01	0.10	0.09	0.012	0.0515	1201.58	1199.57	1202.83	1.25
116	1194.92	1194.82	0.0469	0.11	0.10	1.30	0.012	0.0010	1190.91	1190.68	1195.41	9.87
117	1195.03	1195.02	0.0069	0.00	0.10	1.54	0.012	0.0100	1193.10	1192.50	1195.10	10.65
118	1195.03	1195.02	0.0439	0.01	0.10	0.09	0.012	0.0010	1190.92	1190.91	1195.42	9.94
119	1195.16	1195.13	0.0455	0.03	0.10	0.38	0.012	0.0010	1190.99	1190.92	1195.49	10.16
120	1195.32	1195.26	0.0854	0.06	0.10	0.68	0.012	0.0100	1193.38	1192.70	1194.63	11.62
121	1195.35	1195.26	0.0439	0.09	0.10	1.22	0.012	0.0010	1191.19	1190.99	1195.69	10.72
122	1204.11	1203.74	0.0076	0.01	0.10	0.35	0.012	0.0050	1203.81	1203.44	1205.06	1.63
123	1204.37	1204.03	0.0019	0.00	0.10	0.45	0.012	0.0050	1204.15	1203.81	1205.40	1.25
124	1195.55	1195.45	0.0806	0.10	0.10	0.58	0.012	0.0025	1192.78	1192.47	1196.78	10.17
125	1204.30	1203.10	0.0076	0.00	0.10	0.02	0.012	0.1000	1204.16	1202.96	1205.41	1.25
126	1204.32	1202.31	0.0057	0.00	0.10	0.09	0.012	0.0515	1204.16	1202.15	1205.41	1.25
127	1195.70	1195.65	0.0801	0.05	0.10	0.32	0.012	0.0028	1192.97	1192.78	1196.97	10.69
128	1198.24	1195.80	0.0053	0.00	0.10	0.11	0.012	0.0553	1197.98	1194.44	1199.98	9.27
129	1195.94	1195.80	0.0777	0.14	0.10	0.85	0.012	0.0028	1193.46	1192.97	1197.46	12.27
130	1198.18	1196.04	0.0053	0.00	0.10	0.11	0.012	0.0553	1197.92	1194.38	1199.92	9.83
131	1196.07	1196.04	0.0728	0.03	0.10	0.18	0.012	0.0028	1193.57	1193.46	1197.57	12.59
132	1206.23	1205.63	0.7351	0.18	0.10	0.04	0.012	0.0250	1205.60	1205.00	1206.85	3.90
133	1207.35	1205.44	0.3468	0.13	0.10	0.19	0.012	0.0503	1206.91	1205.00	1208.16	1.25
134	1196.25	1196.17	0.0487	0.08	0.10	1.00	0.012	0.0020	1193.96	1193.57	1197.96	12.90
135	1198.81	1196.35	0.0211	0.01	0.10	0.10	0.012	0.0526	1198.47	1194.89	1200.47	10.28
136	1196.36	1196.35	0.0410	0.01	0.10	0.19	0.012	0.0020	1193.96	1193.96	1197.96	13.01
137	1208.20	1206.19	0.5878	0.23	0.10	0.15	0.012	0.0515	1207.72	1205.71	1208.97	1.22
138	1196.53	1196.46	0.0340	0.07	0.10	1.60	0.012	0.0025	1194.51	1193.96	1198.51	13.32
139	1208.99	1202.41	0.1618	0.12	0.10	0.53	0.012	0.0901	1208.68	1202.10	1209.93	1.83
140	1209.59	1209.31	0.1265	0.07	0.10	0.23	0.012	0.0050	1208.97	1208.68	1210.22	1.59

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
141	1209.82	1209.53	0.0937	0.05	0.10	0.24	0.012	0.0050	1209.26	1208.97	1210.51	0.99
142	1196.67	1196.63	0.0301	0.04	0.10	0.99	0.012	0.0025	1194.83	1194.51	1198.83	13.52
143	1199.70	1196.77	0.0041	0.00	0.10	0.15	0.012	0.0492	1199.47	1195.83	1201.47	11.28
144	1196.80	1196.77	0.0272	0.02	0.10	0.40	0.012	0.0025	1195.06	1194.83	1199.06	13.71
145	1209.95	1207.94	0.3892	0.15	0.10	0.18	0.012	0.0515	1209.51	1207.50	1210.76	1.25
146	1196.93	1196.90	0.0208	0.04	0.10	0.78	0.012	0.0024	1195.48	1195.06	1199.48	13.44
147	1210.84	1210.14	0.0041	0.00	0.10	0.02	0.012	0.1000	1210.70	1210.00	1211.95	1.25
148	1210.48	1210.10	0.0031	0.00	0.10	0.21	0.012	0.0097	1210.28	1209.90	1211.53	1.25
149	1197.04	1197.03	0.0171	0.00	0.10	0.11	0.012	0.0024	1195.64	1195.58	1199.64	13.81
150	1199.72	1197.03	0.0184	0.02	0.10	0.51	0.012	0.0024	1199.19	1198.98	1200.69	12.62
151	1199.86	1199.82	0.0192	0.04	0.10	0.35	0.012	0.0024	1199.73	1199.19	1201.23	13.05
152	1200.47	1200.35	0.0192	0.01	0.10	0.29	0.012	0.0024	1199.94	1199.82	1201.44	12.88
153												
154												
155												
156	The above Pipe information is the limits of the Ring Road Submittal of December, 1991											
157												
158	ARROWHEAD TOWNE CENTER ONSITE SYSTEM											
159	EAST 1/2 MALL		PENNEYS LL									
160	1194.62	1194.28	0.4403	0.34	0.00	0.30	0.012	0.0100	1193.72	1192.95	1195.22	8.03
161	1194.89	1194.72	0.0937	0.17	0.10	1.73	0.012	0.0100	1195.78	1193.97	1197.03	7.05
162	1195.62	1194.72	0.4302	0.90	0.10	0.94	0.012	0.0100	1196.07	1193.97	1197.32	5.93
163	PENNEYS-MERVYN'S UL											
164	1212.51	1195.69	0.3968	1.31	0.00	0.41	0.012	0.0509	1211.98	1195.12	1213.48	7.08
165	1213.82	1213.09	0.4147	0.60	0.10	0.58	0.012	0.0050	1212.71	1211.98	1214.21	9.21
166	1214.12	1212.99	0.0021	0.00	0.10	0.28	0.012	0.0150	1213.96	1212.83	1215.21	5.49
167	1214.04	1213.92	0.3803	0.12	0.10	0.13	0.012	0.0050	1212.87	1212.71	1214.37	9.03
168	1214.58	1214.14	0.3803	0.44	0.10	0.49	0.012	0.0050	1213.45	1212.87	1214.95	8.90

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
169	1216.08	1214.68	0.0202	0.02	0.10	0.17	0.012	0.0260	1215.83	1213.70	1217.08	6.67
170	1214.71	1214.68	0.0536	0.03	0.10	0.53	0.012	0.0200	1214.74	1213.70	1215.99	7.26
171	1215.56	1214.81	0.0428	0.02	0.10	0.14	0.012	0.0110	1215.18	1214.74	1216.43	7.32
172	1215.89	1215.57	0.0428	0.01	0.10	0.11	0.012	0.0100	1215.50	1215.18	1216.75	7.00
173	1214.76	1214.68	0.1573	0.08	0.10	0.33	0.012	0.0050	1213.80	1213.55	1215.30	8.41
174	1219.73	1214.86	0.0752	0.07	0.10	0.17	0.012	0.0525	1219.50	1214.30	1220.50	3.25
175	1215.16	1214.86	0.0987	0.14	0.10	0.50	0.012	0.0050	1214.49	1213.80	1215.99	7.71
176	1220.20	1215.18	0.0341	0.03	0.10	0.19	0.012	0.0492	1220.00	1214.99	1221.00	2.75
177	1215.87	1215.26	0.0666	0.10	0.10	0.58	0.012	0.0050	1215.24	1214.49	1216.74	7.04
178	1218.42	1215.97	0.0258	0.01	0.10	0.10	0.012	0.0500	1218.19	1215.49	1219.44	3.81
179	1219.52	1218.52	0.0663	0.02	0.10	0.08	0.012	0.0252	1219.25	1218.44	1220.25	3.50
180	1216.04	1215.97	0.0254	0.02	0.10	0.27	0.012	0.0050	1215.57	1215.24	1217.07	6.71
181	1218.18	1216.14	0.2210	0.10	0.10	0.08	0.012	0.0383	1217.87	1216.07	1218.87	2.48
182	1219.42	1218.28	0.0180	0.01	0.10	0.08	0.012	0.0419	1219.25	1217.87	1220.25	4.00
183	1219.63	1218.28	0.1128	0.04	0.10	0.12	0.012	0.0383	1219.25	1217.87	1220.25	4.50
184	MERVYN'S- ROBINSONS LL											
185	1196.08	1195.84	0.0764	0.24	0.00	2.40	0.012	0.0036	1195.46	1194.34	1197.46	6.54
186	1198.96	1196.18	0.0104	0.00	0.10	0.05	0.012	0.0050	1198.53	1198.50	1199.78	4.22
187	1199.28	1196.18	0.0393	0.02	0.10	0.29	0.012	0.0050	1198.74	1198.50	1199.99	4.01
188	1196.47	1196.18	0.2241	0.30	0.10	0.72	0.012	0.0025	1195.79	1195.46	1197.29	7.45
189	1196.57	1196.57	0.0099	0.00	0.10	0.12	0.012	0.0100	1196.08	1196.04	1197.33	7.15
190	1196.67	1196.67	0.0008	0.00	0.10	3.89	0.012	0.0100	1196.45	1196.08	1197.70	5.55
191	1196.67	1196.67	0.0055	0.00	0.10	0.67	0.012	0.0225	1196.46	1196.08	1197.71	8.04
192	1196.78	1196.57	0.1836	0.21	0.10	0.69	0.012	0.0025	1196.07	1195.79	1197.57	8.70
193	1196.88	1196.88	0.0055	0.00	0.10	0.75	0.012	0.0100	1196.51	1196.32	1197.76	7.99
194	1196.97	1196.88	0.1622	0.09	0.10	0.35	0.012	0.0025	1196.21	1196.07	1197.71	8.55
195	1197.28	1197.07	0.1678	0.20	0.10	0.77	0.012	0.0025	1196.52	1196.21	1198.02	8.30
196	1197.48	1197.38	0.1250	0.10	0.10	0.68	0.012	0.0100	1197.59	1196.77	1198.84	6.91

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
197	1197.58	1197.58	0.0055	0.00	0.10	0.75	0.012	0.0100	1197.78	1197.59	1199.03	6.72
198	1197.60	1197.58	0.0824	0.02	0.10	0.19	0.012	0.0100	1197.78	1197.59	1199.03	6.72
199	1197.45	1197.38	0.0620	0.07	0.10	1.21	0.012	0.0025	1196.81	1196.52	1198.31	7.95
200	1197.56	1197.55	0.0321	0.01	0.10	0.42	0.012	0.0300	1197.84	1197.06	1199.09	6.66
201	1197.79	1197.66	0.0337	0.14	0.10	5.68	0.012	0.0025	1197.81	1196.81	1199.31	7.06
202	1197.90	1197.89	0.0321	0.01	0.10	0.42	0.012	0.0100	1198.32	1198.06	1199.57	6.18
203	1197.90	1197.89	0.0093	0.00	0.10	1.24	0.012	0.0025	1197.93	1197.81	1199.43	7.04
204	1198.03	1198.00	0.0121	0.03	0.10	5.85	0.012	0.0025	1198.55	1197.93	1200.05	6.38
205	1198.14	1198.13	0.0321	0.01	0.10	0.42	0.012	0.0025	1198.97	1198.90	1200.22	5.53
206	MERVYN'S-ROBINSONS LL											
207	1194.77	1194.74	0.0395	0.03	0.00	0.71	0.012	0.0025	1193.28	1193.06	1196.28	6.97
208	1195.09	1194.87	0.0719	0.21	0.10	3.20	0.012	0.0025	1195.76	1195.03	1197.01	6.54
209	1195.01	1194.87	0.0664	0.14	0.10	1.49	0.012	0.0025	1194.30	1193.78	1196.80	6.95
210	1195.40	1195.11	0.1700	0.29	0.10	0.88	0.012	0.0025	1195.22	1194.80	1197.22	6.47
211	1195.69	1195.50	0.1004	0.19	0.10	1.27	0.012	0.0025	1195.69	1195.22	1197.69	5.90
212	1195.88	1195.79	0.0559	0.09	0.10	1.53	0.012	0.0025	1196.11	1195.69	1198.11	5.64
213	1196.21	1195.98	0.1134	0.23	0.10	1.54	0.012	0.0025	1197.11	1196.61	1198.61	6.24
214	1196.36	1196.31	0.0799	0.05	0.10	0.54	0.012	0.0025	1197.26	1197.11	1198.76	6.17
215	1196.69	1196.46	0.1349	0.23	0.10	1.36	0.012	0.0025	1197.94	1197.51	1199.19	6.25
216	FUTURE-ROBINSONS UL											
217	1199.20	1199.17	0.1921	0.00	0.00	0.00	0.012	0.0535	1198.83	1198.78	1200.08	14.01
218	1203.38	1199.30	0.1921	0.20	0.10	0.17	0.012	0.0400	1202.99	1198.83	1204.24	13.56
219	1205.50	1203.48	0.1921	0.13	0.10	0.14	0.012	0.0300	1205.06	1202.99	1206.31	14.01
220	1207.80	1205.60	0.0008	0.00	0.10	0.55	0.012	0.0300	1207.67	1205.06	1208.92	11.63
221	1208.90	1205.60	0.1690	0.19	0.10	0.20	0.012	0.0300	1208.51	1205.06	1209.76	13.40
222	1216.33	1209.00	0.1762	0.52	0.10	0.62	0.012	0.0250	1215.89	1208.51	1217.14	5.61
223	1217.03	1216.43	0.0321	0.01	0.10	0.07	0.012	0.0300	1216.76	1215.89	1218.01	4.74
224	1217.35	1216.43	0.0580	0.03	0.10	0.11	0.012	0.0250	1217.01	1215.89	1218.26	4.49

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
225	1218.95	1217.45	0.0580	0.04	0.10	0.16	0.012	0.0250	1218.61	1217.01	1219.86	2.89
226	FUTURE STORE LL											
227	1197.90	1197.87	0.0143	0.03	0.00	1.35	0.012	0.0019	1196.16	1195.72	1199.66	5.00
228	1198.01	1198.00	0.0326	0.01	0.10	0.10	0.012	0.0024	1196.72	1196.66	1199.72	4.53
229	1198.71	1198.11	0.0613	0.06	0.10	0.37	0.012	0.0024	1197.46	1197.22	1199.96	4.29
230	1198.86	1198.81	0.0424	0.05	0.10	0.45	0.012	0.0024	1197.73	1197.46	1200.23	4.02
231	1199.43	1198.96	0.0408	0.05	0.10	0.58	0.012	0.0024	1198.53	1198.23	1200.53	7.84
232	1200.17	1199.53	0.0441	0.06	0.10	0.84	0.012	0.0024	1199.61	1199.28	1200.86	5.32
233	1200.31	1200.27	0.0441	0.01	0.10	0.10	0.012	0.0024	1199.75	1199.71	1201.00	4.75
234	1199.86	1199.53	0.1010	0.16	0.10	0.90	0.012	0.0024	1199.02	1198.63	1200.52	4.23
235	1200.00	1199.96	0.0676	0.06	0.10	0.47	0.012	0.0024	1199.25	1199.02	1200.75	3.00
236	1200.18	1200.10	0.1030	0.03	0.10	0.15	0.012	0.0024	1199.44	1199.37	1200.69	3.06
237	1200.29	1200.28	0.0494	0.01	0.10	0.14	0.012	0.0024	1199.47	1199.44	1200.72	3.03
238												
239												
240	WEST 1/2	MALL	PENNEYS-DILLARDS		LL							
241	1194.76	1194.61	0.1126	0.15	0.10	0.74	0.012	0.0024	1192.42	1192.10	1194.92	7.73
242	1195.04	1194.86	0.0908	0.18	0.10	1.39	0.012	0.0024	1193.39	1192.92	1195.39	7.26
243	1195.21	1195.14	0.0393	0.07	0.10	1.99	0.012	0.0024	1193.84	1193.39	1195.84	10.61
244	PENNEYS	LL										
245	1195.34	1195.31	0.0185	0.03	0.10	3.84	0.012	0.0024	1195.02	1194.59	1196.27	9.68
246	1195.46	1195.44	0.0202	0.02	0.10	1.85	0.012	0.0024	1195.23	1195.02	1196.48	9.27
247	1195.56	1195.56	0.0202	0.00	0.10	0.16	0.012	0.0150	1195.35	1195.23	1196.60	9.15
248	DILLARDS-PENNEYS		LL									
249	1195.39	1195.31	0.1468	0.08	0.10	0.39	0.012	0.0024	1194.47	1194.34	1195.97	10.48
250	1195.51	1195.49	0.0806	0.02	0.10	0.27	0.012	0.0150	1195.11	1194.72	1196.36	9.39
251	1195.55	1195.49	0.0799	0.05	0.10	0.62	0.012	0.0024	1194.64	1194.47	1196.14	10.05
252	1198.31	1195.65	0.0477	0.05	0.10	0.20	0.012	0.0300	1198.01	1194.89	1199.26	6.49

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
253	1202.00	1198.41	0.0738	0.03	0.10	0.04	0.012	0.1070	1201.75	1198.01	1203.00	2.75
254	DILLARDS	LL										
255	1195.72	1195.65	0.0617	0.07	0.10	1.37	0.012	0.0024	1195.16	1194.89	1196.41	9.13
256	1195.83	1195.82	0.0355	0.01	0.10	0.48	0.012	0.0150	1195.63	1195.16	1196.88	8.87
257	1195.87	1195.82	0.0209	0.05	0.10	4.91	0.012	0.0024	1195.75	1195.16	1197.00	8.43
258	1195.99	1195.97	0.0221	0.02	0.10	1.46	0.012	0.0024	1195.93	1195.75	1197.18	8.35
259	1196.10	1196.09	0.0355	0.01	0.10	0.48	0.012	0.0150	1196.39	1195.93	1197.64	8.11
260	1196.09	1196.09	0.0017	0.01	0.10	20.68	0.012	0.0024	1196.63	1195.93	1197.88	7.87
261	1196.19	1196.19	0.0019	0.00	0.10	2.37	0.012	0.0024	1196.71	1196.63	1197.96	5.37
262	DILLARDS	LL										
263	1195.43	1194.86	0.1869	0.57	0.10	1.51	0.012	0.0024	1193.65	1192.92	1195.65	6.40
264	1195.76	1195.53	0.1300	0.24	0.10	1.07	0.012	0.0024	1194.09	1193.65	1196.09	5.96
265	1196.00	1195.86	0.0871	0.14	0.10	1.17	0.012	0.0024	1194.48	1194.09	1196.48	6.27
266	1199.94	1196.10	0.0354	0.05	0.10	0.23	0.012	0.0350	1199.50	1194.48	1201.50	1.25
267	1201.47	1200.04	0.0410	0.05	0.10	0.39	0.012	0.0081	1201.00	1200.00	1202.50	1.25
268	WARDS-DI	LLARDS UL										
269	1212.82	1206.23	0.7681	2.50	0.00	0.74	0.012	0.0200	1212.12	1205.60	1213.37	7.83
270	1213.83	1212.92	0.7681	0.91	0.10	0.39	0.012	0.0100	1213.30	1212.12	1214.55	8.46
271	1213.94	1213.93	0.0366	0.01	0.10	0.47	0.012	0.0150	1213.77	1213.30	1215.02	7.73
272	1214.93	1213.93	0.5014	1.00	0.10	0.83	0.012	0.0100	1215.30	1213.30	1216.55	6.47
273	1215.10	1215.03	0.2327	0.07	0.10	0.19	0.012	0.0150	1215.77	1215.30	1217.02	5.73
274	1217.10	1215.03	0.0580	0.04	0.10	0.79	0.012	0.0100	1216.04	1215.30	1217.29	6.09
275	1219.59	1217.20	0.0580	0.08	0.10	0.33	0.012	0.0238	1219.25	1216.04	1220.50	2.25
276	WARDS LL											
277	1198.15	1197.04	0.0171	0.01	0.00	0.41	0.012	0.0024	1195.80	1195.64	1199.80	N.A.
278	1208.97	1198.25	N.A.	N.A.	0.10	0.05	0.012	0.4489	1208.85	1197.18	1210.10	2.45
279	1198.23	1198.15	0.0170	0.03	0.10	0.85	0.012	0.0024	1196.20	1195.80	1200.20	N.A.
280	1210.26	1198.33	N.A.	N.A.	0.10	0.00	0.012	6.0000	1210.20	1198.20	1211.45	1.25

ARROWHEAD TOWNE CENTER - IMPROVEMENT DISTRICT No.57 10 YEAR STORM DESIGN

A	AA	AB	AC	AD	AF	AG	AH	AK	AL	AM	AN	AO
281	1198.04	1198.33	0.0157	0.03	0.10	0.59	0.012	0.0024	1196.64	1196.20	1200.64	7.94
282	1198.54	1198.14	0.0157	0.03	0.10	0.55	0.012	0.0024	1197.14	1196.74	1201.14	3.11
283	1202.86	1198.64	0.1775	0.33	0.10	0.50	0.012	0.0094	1202.18	1200.40	1203.68	2.17
284	1203.27	1202.96	0.2753	0.31	0.10	0.63	0.012	0.0024	1202.70	1202.43	1203.95	1.50
285	1199.57	1198.64	0.0905	0.12	0.10	0.62	0.012	0.0024	1198.45	1198.14	1200.45	5.86
286	1202.06	1199.67	0.1666	0.37	0.10	1.61	0.012	0.0024	1201.22	1200.68	1202.47	5.56
287	1202.43	1202.16	0.1111	0.27	0.10	2.17	0.012	0.0024	1201.81	1201.22	1203.06	3.52
288	1199.82	1199.67	0.1617	0.15	0.10	0.61	0.012	0.0024	1198.78	1198.55	1200.28	6.57
289	1199.99	1199.92	0.0910	0.07	0.10	0.71	0.012	0.0024	1199.05	1198.88	1200.30	3.45
290	1200.40	1199.92	0.0390	0.08	0.10	2.54	0.012	0.0024	1199.38	1198.90	1200.63	5.12
291	1200.20	1200.09	0.0950	0.11	0.10	1.06	0.012	0.0024	1199.32	1199.05	1200.57	2.68
292	1200.32	1200.30	0.0403	0.02	0.10	0.76	0.012	0.0024	1199.45	1199.32	1200.70	2.55
293	1200.30	1200.30	0.0130	0.00	0.10	0.31	0.012	0.0024	1199.36	1199.32	1200.61	2.64
294												
295												
296	The above Pipe information is the limits of the Arrowhead Mall Onsite stormdrain system.											
297												
298	NOTES:											
299												
300	1. UPPER LEVEL FINISH FLOOR (UL) ELEV=1225.0 except DILLARDS =1225.083											
301	2. LOWER LEVEL FINISH FLOOR (LL) ELEV=1207.5 except DILLARDS =1207.583											
302	3. AC PARCELS (ASSOCIATED COMMERCIAL) DATA SHOWN IS MAXIMUM											
303	RUNOFF PERMITTED FROM FUTURE DEVELOPMENT											

PHOENIX, ARIZONA RAINFALL INTENSITY-DURATION-FREQUENCY RELATION

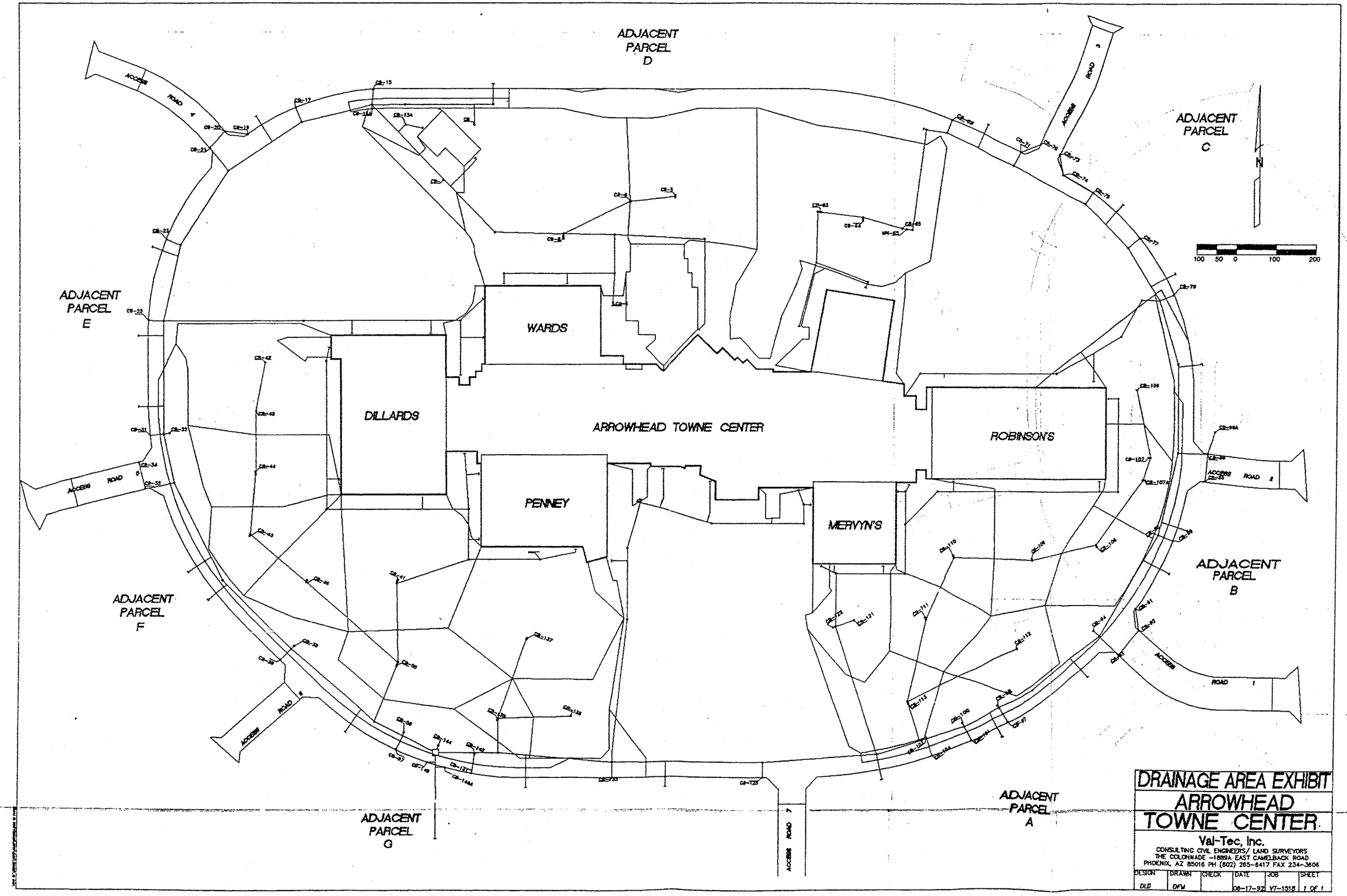
A	AS	AT	AU	AV	AW
1		10 YEAR	25 YEAR	50 YEAR	100 YEAR
2	Time	intensity	intensity	intensity	intensity
3	in	in	in	in	in
4	minutes	in/hr	in/hr	in/hr	in/hr
5					
6	10	3.80	4.50	5.00	5.60
7	11	3.70	4.30	4.85	5.40
8	12	3.60	4.20	4.70	5.30
9	13	3.50	4.00	4.50	5.10
10	14	3.40	3.90	4.40	4.95
11	15	3.30	3.80	4.30	4.85
12	16	3.20	3.70	4.15	4.70
13	17	3.10	3.60	4.00	4.55
14	18	3.00	3.50	3.90	4.45
15	19	2.95	3.40	3.80	4.35
16	20	2.90	3.30	3.70	4.25
17	21	2.85	3.23	3.62	4.15
18	22	2.80	3.16	3.55	4.00
19	23	2.75	3.09	3.50	3.95
20	24	2.70	3.02	3.40	3.85
21	25	2.65	2.95	3.33	3.80
22	26	2.60	2.88	3.26	3.70
23	27	2.55	2.81	3.19	3.60
24	28	2.50	2.74	3.12	3.50
25	29	2.45	2.67	3.05	3.45
26	30	2.40	2.60	3.00	3.40
27	31	2.35	2.50	2.95	3.34
28	32	2.30	2.47	2.90	3.28
29	33	2.25	2.43	2.85	3.22
30	34	2.20	2.40	2.80	3.16
31	35	2.15	2.37	2.75	3.10
32	36	2.10	2.33	2.70	3.04
33	37	2.05	2.30	2.65	2.98
34	38	2.00	2.27	2.60	2.92
35	39	1.95	2.23	2.55	2.86
36	40	1.90	2.20	2.50	2.80
37	41	1.87	2.22	2.45	2.76
38	42	1.84	2.19	2.40	2.72
39	43	1.81	2.12	2.36	2.68
40	44	1.78	2.09	2.33	2.64
41	45	1.75	2.06	2.30	2.60
42	46	1.72	2.03	2.27	2.56
43	47	1.69	2.00	2.24	2.52
44	48	1.66	1.98	2.21	2.48

PHOENIX, ARIZONA RAINFALL INTENSITY-DURATION-FREQUENCY RELATION

A	AS	AT	AU	AV	AW
45	49	1.63	1.95	2.18	2.44
46	50	1.60	1.92	2.15	2.40
47	51	1.58	1.89	2.12	2.38
48	52	1.56	1.86	2.09	2.35
49	53	1.54	1.83	2.06	2.33
50	54	1.52	1.79	2.03	2.30
51	55	1.50	1.76	2.00	2.28
52	56	1.48	1.73	1.98	2.25
53	57	1.46	1.69	1.96	2.23
54	58	1.44	1.66	1.94	2.20
55	59	1.42	1.63	1.92	2.18
56	60	1.40	1.60	1.90	2.15
57	61	1.38	1.59	1.88	2.12
58	62	1.36	1.58	1.86	2.09
59	63	1.34	1.57	1.84	2.06
60	64	1.32	1.56	1.82	2.03
61	65	1.30	1.55	1.80	2.00
62	66	1.28	1.54	1.78	1.97
63	67	1.26	1.53	1.76	1.94
64	68	1.24	1.52	1.74	1.91
65	69	1.22	1.51	1.72	1.88
66	70	1.20	1.50	1.70	1.85
67	71	1.19	1.49	1.68	1.84
68	72	1.18	1.47	1.66	1.82
69	73	1.17	1.46	1.64	1.81
70	74	1.16	1.44	1.62	1.79
71	75	1.15	1.43	1.60	1.78
72	76	1.14	1.41	1.58	1.76
73	77	1.13	1.40	1.56	1.75
74	78	1.12	1.38	1.54	1.73
75	79	1.11	1.37	1.52	1.72
76	79.5	1.11	1.36	1.51	1.71
77	80	1.10	1.35	1.50	1.70
78	90	1.00	1.23	1.40	1.55
79	100	0.91	1.10	1.28	1.45
80	110	0.85	1.04	1.18	1.35
81	120	0.78	0.96	1.10	1.25
82	130	0.74	0.90	1.05	1.18
83	140	0.70	0.85	0.98	1.10
84	150	0.67	0.80	0.92	1.05
85	160	0.63	0.77	0.88	0.99
86	170	0.60	0.73	0.84	0.95
87	180	0.57	0.69	0.80	0.90
88	190	0.55	0.67	0.76	0.86

PHOENIX, ARIZONA RAINFALL INTENSITY-DURATION-FREQUENCY RELATION

A	AS	AT	AU	AV	AW
89	200	0.53	0.65	0.73	0.82
90	210	0.51	0.62	0.71	0.80
91	220	0.49	0.60	0.69	0.77
92	230	0.47	0.58	0.66	0.75
93	240	0.45	0.55	0.64	0.72
94	250	0.44	0.53	0.62	0.70
95	260	0.42	0.52	0.60	0.68
96	270	0.41	0.50	0.58	0.66
97	280	0.40	0.49	0.56	0.64
98	290	0.39	0.47	0.55	0.62
99	300	0.38	0.46	0.54	0.60
100	400	0.30	0.36	0.43	0.47
101	500	0.25	0.31	0.35	0.40
102	600	0.22	0.27	0.30	0.34
103	700	0.19	0.23	0.27	0.30
104	800	0.17	0.21	0.24	0.27
105	900	0.16	0.19	0.22	0.24
106	1000	0.14	0.17	0.20	0.22


ADJACENT PARCEL D
ADJACENT PARCEL C
ADJACENT PARCEL E
ADJACENT PARCEL F
ADJACENT PARCEL G
ADJACENT PARCEL A
ADJACENT PARCEL B
WARDS
DILLARDS
ARROWHEAD TOWNE CENTER
ROBINSON'S
PENNEY
MERVYN'S
ACCESS ROAD 1
ACCESS ROAD 2
ACCESS ROAD 4
ACCESS ROAD 5
ACCESS ROAD 6
ACCESS ROAD 7
N
100 50 0 100 200
DRAINAGE AREA EXHIBIT
ARROWHEAD TOWNE CENTER
Val-Tec, Inc.
CONSULTING CIVIL ENGINEERS/ LAND SURVEYORS
THE COLONNADE -16889A EAST CAMELBACK ROAD
PHOENIX, AZ 85016 PH (602) 265-6417 FAX 234-3606
DESIGN DLD
DRAWN DFM
CHECK
DATE 08-17-92
JOB VT-1518
SHEET 1 OF 1