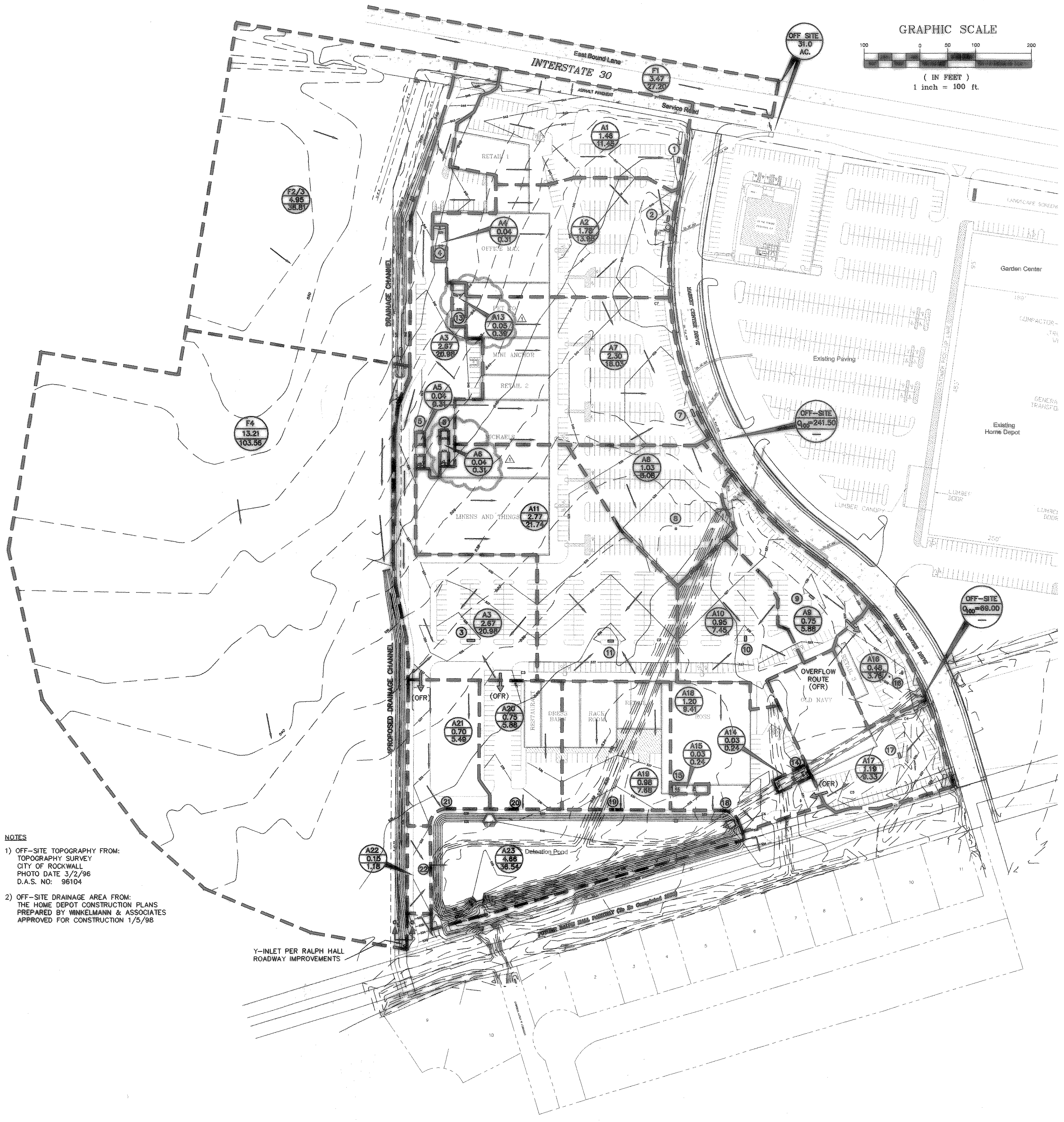
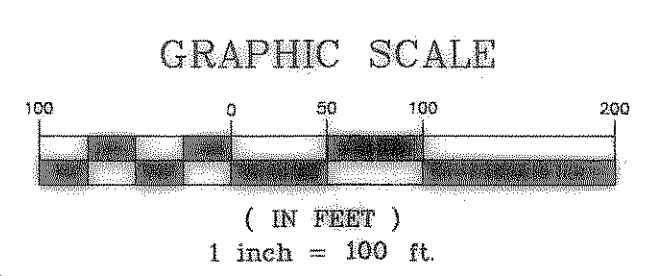
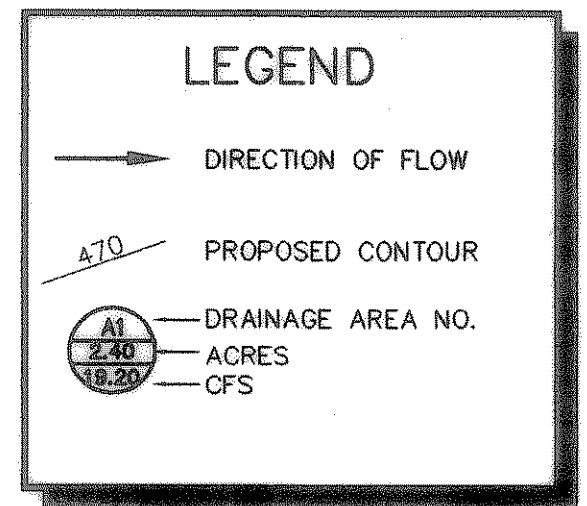


DRAINAGE AREA CHART

AREA NO.	AREA (ACRES)	Coef "c"	TIME (MIN.)	I 100 (IN/HR.)	Q100 (c.f.s.)	INLET #	INLET TYPE	INLET CAPACITY	CROWN TYPE
F1	3.47	0.80	10	9.8	27.20	-	-	-	-
F2/3	4.95	0.80	10	9.8	38.80	-	-	-	-
F4	13.21	0.80	10	9.8	103.56	-	-	-	-
A1	1.46	0.80	10	9.8	11.45	1	10" C.I.	14.00	SAG
A2	1.78	0.80	10	9.8	13.95	2	10" C.I.	14.00	SAG
A3	2.67	0.80	10	9.8	20.98	3	14" C.I.	25.00	SAG
A4	0.04	0.80	10	9.8	0.31	4	13" C.B.	1.23	SAG
A5	0.04	0.80	10	9.8	0.31	5	13" C.B.	1.23	SAG
A6	0.04	0.80	10	9.8	0.31	6	24" C.B.	9.70	SAG
A7	2.30	0.80	10	9.8	18.03	7	14" C.I.	25.00	SAG
A8	1.03	0.80	10	9.8	8.08	8	24" C.B.	9.70	SAG
A9	0.75	0.80	10	9.8	5.88	9	10" C.I.	14.00	SAG
A10	0.95	0.80	10	9.8	7.45	10	10" C.I.	14.00	SAG
A11	2.77	0.80	10	9.8	21.74	11	14" C.I.	25.00	SAG
A13	0.05	0.80	10	9.8	0.39	13	13" C.B.	1.23	SAG
A14	0.03	0.80	10	9.8	0.24	14	13" C.B.	1.23	SAG
A15	0.03	0.80	10	9.8	0.24	15	13" C.B.	1.23	SAG
A16	0.48	0.80	10	9.8	3.76	16	24" C.B.	9.70	SAG
A17	1.19	0.80	10	9.8	9.33	17	10" C.I.	14.00	SAG
A18	1.20	0.80	10	9.8	9.41	18	3' FLUME	12.50	-
A19	0.98	0.80	10	9.8	7.68	19	3' FLUME	12.50	-
A20	0.75	0.80	10	9.8	5.88	20	3' FLUME	12.50	-
A21	0.70	0.80	10	9.8	5.49	21	3' FLUME	12.50	-
A22	0.15	0.80	10	9.8	1.18	22	3' FLUME	12.50	-
A23	4.66	0.80	10	9.8	36.54	-	-	-	-

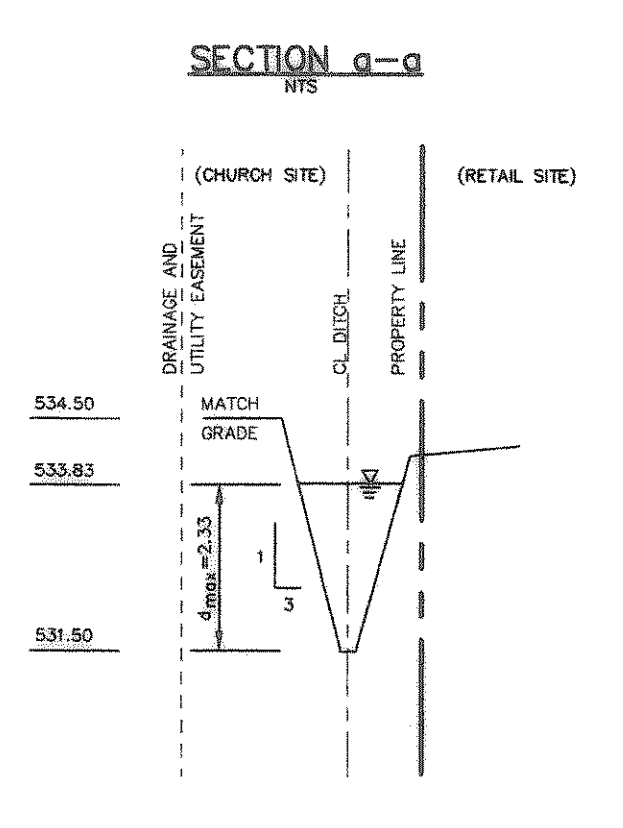


- NOTES**
- OFF-SITE TOPOGRAPHY FROM: TOPOGRAPHY SURVEY CITY OF ROCKWALL PHOTO DATE 3/2/98 D.A.S. NO: 96104
 - OFF-SITE DRAINAGE AREA FROM: THE HOME DEPOT CONSTRUCTION PLANS PREPARED BY NINKELMANN & ASSOCIATES APPROVED FOR CONSTRUCTION 1/5/98

Rockwall Retail Center Detention City of Dallas Method

Undeveloped Conditions		Off-Site-developed		Off-Site-undeveloped		Det Ponds	
Area	39.88 acres	Area	0.00 acres	Area	51.80 acres	Area	6.83 acres
C	0.35	C	0.35	C	0.35	C	0.35
Tc	10.00 min	Tc	10.00 min	Tc	10.00 min	Tc	10 min
I100	9.80 in/hr	I100	9.80 in/hr	I100	9.80 in/hr	I100	9.8 in/hr
Q100	196.79 cfs	Q100	0.00 cfs	Q100	177.67 cfs	Q100	23.48 cfs
Qt	337.89 cfs	Detention Pond Release Rate per revised drainage area.					
Qr	308.00 cfs	Detention Pond Release Rate per Home Depot Plans					

PROPOSED DITCH - CAPACITY CHECK
 SECTION a-a
 SECTION a-a TRIBUTARY AREA = 12.60 AC.
 $T_c = 13.0$ MIN.
 $I_{100} = 9.3$ IN/HR
 $C = 0.80$
 $Q_{100} = 93.74$ CFS
 GRASS/EARTHEN DITCH
 $s = 0.57\%$
 $n = 0.025$
 $s/s = 3/1$
 $Q_{100} = 93.74$ CFS
 $d = 2.33$ FT
 $v = 5.02$ FPS



Developed Conditions		Off-Site-developed (Area-2)		Off-Site-undeveloped (Area-3)		Det Areas (Area-4)	
Area	37.69 acres	Area	3.47 acres	Area	43.49 acres	Area	6.83 acres
C	0.80	C	0.80	C	0.35	C	0.25
Tc	15.00 min	Tc	15.00 min	Tc	15 min	Tc	15 min
I100	9.80 in/hr	I100	9.80 in/hr	I100	9.80 in/hr	I100	9.8 in/hr
Q100	285.49 cfs	Q100	27.20 cfs	Q100	149.14 cfs	Q100	16.73 cfs
Qmax	488.56 cfs	Max Inflow per revised drainage area.					

Rockwall IDF - Max Inflow

Duration	I100	Area-1	Area-2	Area-3	Area-4	C-1	C-2	C-3	C-4	Q100
10	9.80	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	488.56
20	8.30	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	413.78
30	6.90	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	343.99
40	5.80	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	289.15
50	5.00	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	249.27
60	4.45	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	221.85
70	4.16	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	207.99
80	3.87	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	192.93
90	3.57	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	177.98

Detention Volume-city of Dallas method

Duration	I100	Area-1	Area-2	Area-3	Area-4	C-1	C-2	C-3	C-4	Q100
10	9.80	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	293,138.58
20	8.30	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	202,800.00
30	6.90	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	192,340.86
40	5.80	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	186,960.72
50	5.00	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	181,580.58
60	4.45	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	176,200.44
70	4.16	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	170,820.30
80	3.87	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	165,440.16
90	3.57	37.69	3.47	43.48	6.83	0.80	0.80	0.35	0.25	160,060.02

Stormwater Storage Tabulation

Pond Storage Volume	184,227.00 cf
Conduit Storage Volume	61,266.00 cf
Total Stormwater Storage	245,493.00 cf

"RECORD DRAWINGS"
 NOTE: THE INTENT OF THE OWNER AND ENGINEER WAS TO CONSTRUCT THE IMPROVEMENTS ACCORDING TO THESE PLANS AS APPROVED BY THE CITY OF ROCKWALL. THE LINES AND GRADES WERE SET ON THE GROUND FOR CONSTRUCTION ACCORDING TO SAID PLANS. WE ARE NOT AWARE OF ANY CHANGES OR REVISIONS TO THESE PLANS DURING CONSTRUCTION EXCEPT AS NOTED ON THE PLANS.