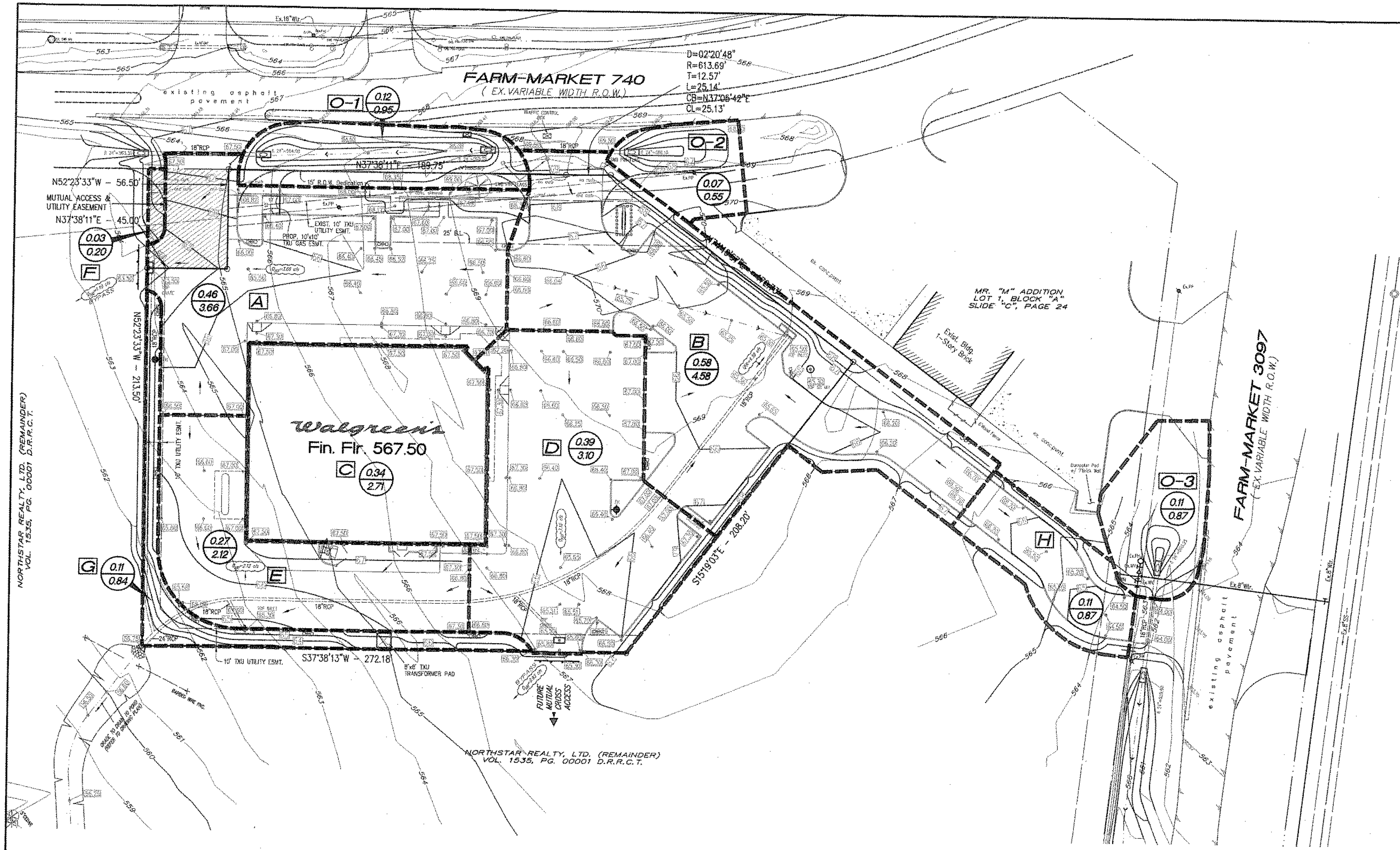

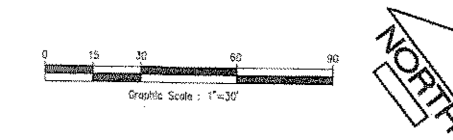

APPROVED FOR CONSTRUCTION

MAR 2 7 2000

City of Rockwall Engineering Dept.
City Engineer:____________

LEGEND

C (box)	DRAINAGE AREA
0.26	AREA (ACRES)
2.07	Q_{100}(CFS)
←	DIRECTION OF FLOW
——	EXISTING CONTOURS
—565—	PROPOSED CONTOURS

DRAINAGE CRITERIA

$Q_{100} = C \cdot I \cdot A$
$C = 0.80$
$I_{100} = 9.90$
$T = 10$ MIN.

STORM SEWER CALCULATIONS

RUNOFF COLLECTION POINT (Inlet or Manhole): UPSTREAM STATION	DOWNSTREAM STATION	Distance Between Collection Points	INCREMENTAL DRAINAGE AREA: Area No.	Drainage Area "A" (Acres)	Runoff Coeff. "C"	Incremental "CA"	Accumulated "CA"	Time at Upstream Station (minutes)	Design Storm Frequency (yrs)	Intensity "I" (in./hr.)	Storm Water Runoff "Q" (c.f.s.)	Slope of Hydraulic Gradient "S" (ft./ft.)	Selected Storm Sewer Size	Velocity in Sewer Between Collection Points "V" (f.p.s.)	Head Loss Coeff. K_j	Velocity Head Loss at Upstream Station $K_j \frac{V^2}{2g}$ (feet)	Flow Time in Sewer Distance / V x 60 (minutes)	Time at Downstream Station (minutes)	REMARKS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LINE "A"																			
4+35.00	2+18.00	217.00	B	0.58	0.80	0.46	0.46	10.00	100	9.90	4.58	0.0058	18"	5.57	0.33	1.29	0.616	10.62	
2+18.00	0+56.00	162.00	D	0.39	0.80	0.31	0.78	10.62	100	9.90	3.10	0.0074	18"	6.54	0.29	1.10	0.413	11.03	
0+56.00	0+09.00	47.00	E	0.27	0.80	0.22	0.99	11.03	100	9.90	2.12	0.0092	18"	4.77	0.31	0.43	0.116	11.15	
0+09.00	0+00	9.00	LINE "B"	0.80	0.80	0.64	1.63	11.15	100	9.90	6.37	0.0059	24"	7.91	0.05	0.06	0.016	11.17	GRADE TO DRAIN TO POND
LINE "B"																			
3+05.00	0+55.00	150	A	0.46	0.80	0.37	0.37	10.00	100	9.90	3.66	0.0114	18"	6.65	0.30	1.71	0.375	10.38	
0+55.00	0+00	55	C	0.34	0.80	0.27	0.64	10.38	100	9.90	2.71	0.0114	18"	6.65	0.30	0.63	0.138	10.52	
LINE "C"																			
0+70.00	0+00.00	70	O-1	0.18	0.80	0.14	0.14	10.00	100	9.90	1.42	0.0098	18"	5.94	0.05	0.09	0.196	10.20	
LINE "D"																			
0+85.00	0+00.00	85	O-2	0.07	0.80	0.056	0.056	10.00	100	9.90	0.55	0.0098	18"	5.94	0.05	0.03	0.238	10.24	
LINE "E"																			
0+65.00	0+00.00	65	O-3	0.11	0.80	0.088	0.088	10.00	100	9.90	0.87	0.0098	18"	5.94	0.05	0.04	0.182	10.18	

Benchmark:
City of Rockwall Brass Disk Monument set in Concrete
City of Rockwall Monument # R017.
Elevation = 549.46

INLET DESIGN CALCULATIONS

INLET: NO.	LOCATION	DESIGN STORM FREQUENCY (YRS.)	AREA RUNOFF Q = CIA: TIME OF INTENSITY CONC. (MIN.)	"I" (IN./HR.)	RUNOFF COEFF. "C"	AREA (AC.)	"Q" (C.F.S.)	CARRY-OVER FROM UPSTREAM INLET (C.F.S.)	TOTAL GUTTER FLOW (C.F.S.)	GUTTER CAPACITY (C.F.S.)	GUTTER SLOPE (FT./100FT.)	CROWN TYPE	SELECTED INLET: LENGTH "L" (FEET)	TYPE	CARRY-OVER TO DOWNSTREAM INLET (C.F.S.)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	STA. 4+35.00 LINE "A"	100	10	9.90	0.80	0.58	4.58	0	4.58	12.7	0.80	N/A	10	[illegible]	0
2	STA. 0+35.00 LAT. "A-2"	100	10	9.90	0.80	0.39	3.10	0	3.10	3.17	0.80	N/A	2' x 5'	2-GRATE	0
3	STA. 0+20 LAT. "A-1"	100	10	9.90	0.80	0.27	2.17	0	2.12	12.7	4.55	N/A	10	[illegible]	0
4	STA. 2+05.20 LINE "B"	100	10	9.90	0.80	0.46	3.66	0	3.66	2.56	0.67	N/A	2' x 5'	2-GRATE	0

ON-SITE DRAINAGE INFORMATION

AREA	ACRE	C	I_{100}	Q_{100}	DESTINATION	NOTE:
A	0.46	0.80	9.90	3.66 CFS	TO 2-GRATE DRAIN	Q100=1.10 CFS BYPASS
B	0.58	0.80	9.90	4.58 CFS	TO 10' CURB INLET	
C	0.34	0.80	9.90	2.71 CFS	TO ROOF DOWN SPOUTS	
D	0.39	0.80	9.90	3.10 CFS	TO 2-GRATE DRAIN	Q100=0.93 CFS BYPASS
E	0.27	0.80	9.90	2.12 CFS	TO 10' CURB INLET	
F	0.03	0.80	9.90	0.20 CFS	SOUTH TO OFF-SITE	
G	0.11	0.80	9.90	0.87 CFS	SOUTH TO OFF-SITE	
H	0.11	0.80	9.90	0.87 CFS	EAST TO OFF-SITE	
TOTALS	2.29	---	---	18.11 CFS		

OFF-SITE DRAINAGE INFORMATION

AREA	ACRE	C	I_{100}	Q_{100}	DESTINATION	NOTE:
O-1	0.12	0.80	9.90	0.95 CFS	TO 18" RCP	
O-2	0.07	0.80	9.90	0.55 CFS	TO 18" RCP	
O-3	0.11	0.80	9.90	0.87 CFS	TO 18" RCP	
TOTALS	0.30	---	---	2.37 CFS		

STATE OF TEXAS
C. MICHAEL DANIEL
62457
REGISTERED PROFESSIONAL ENGINEER

revisions	date

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DRAINAGE AREA MAP
WALGREENS - STORE # 5827
F.M. 740 AND F.M. 3097
ROCKWALL, ROCKWALL COUNTY, TEXAS

design	drawn	scale	date	notes
NDMCE	NDMCE	NOTED	Mar. 27, 2000	

sheet no. 2/13

job number 9905057