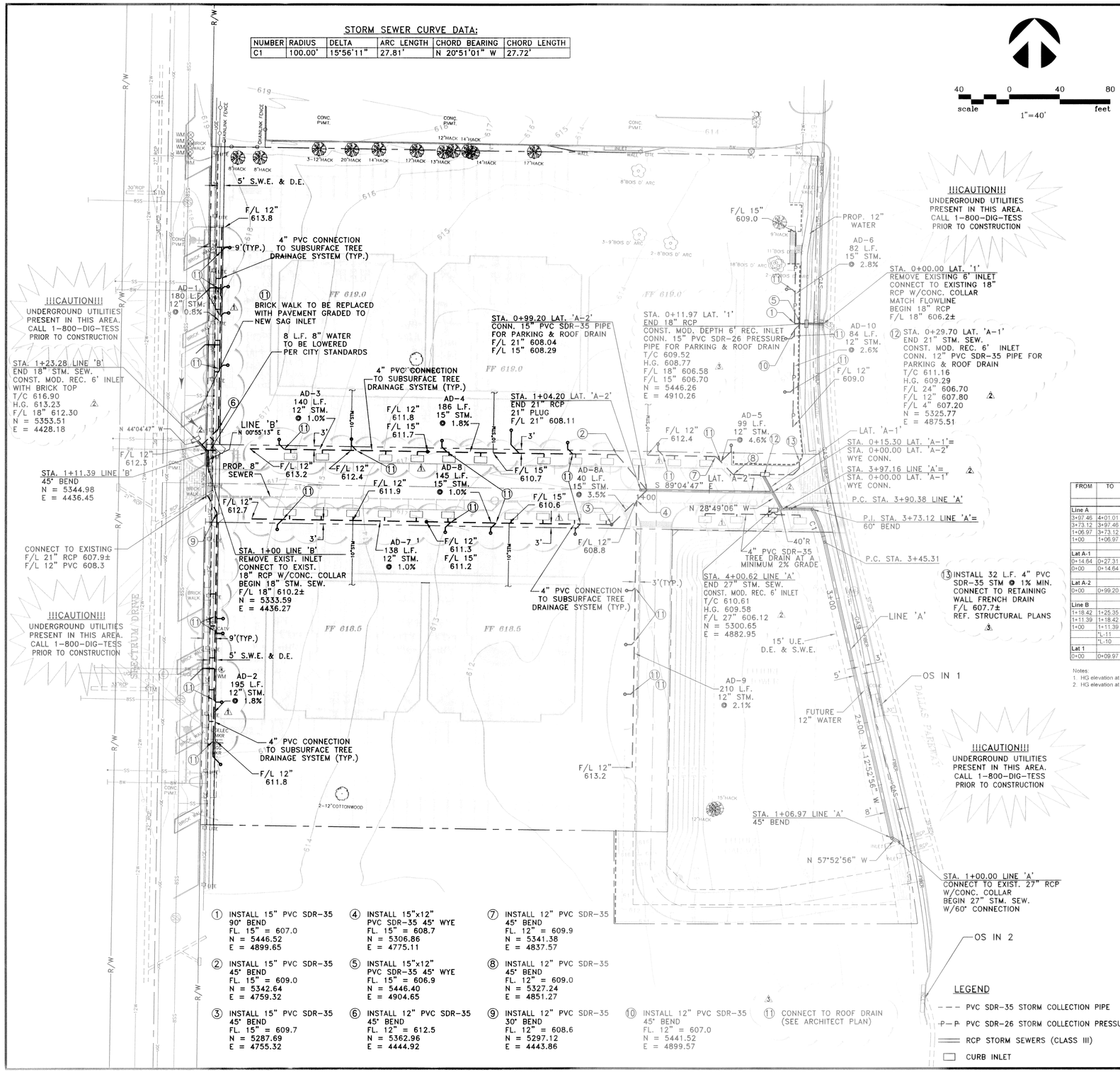
STORM SEWER CURVE DATA:

NUMBER	RADIUS	DELTA	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C1	100.00'	15°56'11"	27.81'	N 20°51'01" W	27.72'



1 INSTALL 15" PVC SDR-35 90° BEND FL. 15" = 607.0 N = 5446.52 E = 4899.65

2 INSTALL 15" PVC SDR-35 45° BEND FL. 15" = 609.0 N = 5342.64 E = 4759.32

3 INSTALL 15" PVC SDR-35 45° BEND FL. 15" = 609.7 N = 5287.69 E = 4755.32

4 INSTALL 15"x12" PVC SDR-35 45° WYE FL. 15" = 608.7 N = 5306.86 E = 4775.11

5 INSTALL 15"x12" PVC SDR-35 45° WYE FL. 15" = 606.9 N = 5446.40 E = 4904.65

6 INSTALL 12" PVC SDR-35 45° BEND FL. 12" = 612.5 N = 5362.96 E = 4444.92

7 INSTALL 12" PVC SDR-35 45° BEND FL. 12" = 609.9 N = 5341.38 E = 4837.57

8 INSTALL 12" PVC SDR-35 45° BEND FL. 12" = 609.0 N = 5327.24 E = 4851.27

9 INSTALL 12" PVC SDR-35 30° BEND FL. 12" = 608.6 N = 5297.12 E = 4443.86

10 INSTALL 12" PVC SDR-35 45° BEND FL. 12" = 607.0 N = 5441.52 E = 4899.57

11 CONNECT TO ROOF DRAIN (SEE ARCHITECT PLAN)

LEGEND

- PVC SDR-35 STORM COLLECTION PIPE
- PVC SDR-26 STORM COLLECTION PRESSURE PIPE
- RCP STORM SEWERS (CLASS III)
- CURB INLET

NO.	DATE	REVISION	APPROV.
1.	5/14/07	CONNECTION TO TREE DRAIN SHOWN.	B.R.G.
2.	10/10/07	REVISED INLET TYPE & STORM SEWER NOTES	B.R.G.
3.	11/16/07	REVISED INLET TYPE & STORM SEWER NOTES	B.R.G.

STORM SYSTEM CALCULATIONS - LINE 'A'

STATION UP-STREAM	STATION DOWN-STREAM	DISTANCE (ft)	INCOMING LATERAL	D.A (S) COLLECTED (cfs)	Q_{100} (cfs)	SELECTED PIPE SLOPE (%)	SELECTED PIPE SIZE (in)	PIPE CAPACITY (cfs)	VELOCITY (fps)	Sf (ft/ft)
4+01.01	3+90.45	11.6	5' INLET	5	3.7	0.70%	27	25.9	0.9	0.014%
3+90.45	1+00.00	290.5	LAT A-1	-	25.8	0.70%	27	25.9	6.5	0.69%

STORM SYSTEM CALCULATIONS - LAT 'A-1'

STATION UP-STREAM	STATION DOWN-STREAM	DISTANCE (ft)	INCOMING LATERAL	D.A (S) COLLECTED (cfs)	Q_{100} (cfs)	SELECTED PIPE SLOPE (%)	SELECTED PIPE SIZE (in)	PIPE CAPACITY (cfs)	VELOCITY (fps)	Sf (ft/ft)
0+27.31	0+14.68	12.6	6' INLET	4.10	5.2	1.57%	24	28.3	1.7	0.05%
0+14.68	0+00.00	14.7	LAT A-2	-	22.1	1.57%	24	28.3	7.0	0.95%

STORM SYSTEM CALCULATIONS - LINE 'LAT A-2'

STATION UP-STREAM	STATION DOWN-STREAM	DISTANCE (ft)	INCOMING LATERAL	D.A (S) COLLECTED (cfs)	Q_{100} (cfs)	SELECTED PIPE SLOPE (%)	SELECTED PIPE SIZE (in)	PIPE CAPACITY (cfs)	VELOCITY (fps)	Sf (ft/ft)
1+04.20	0+00	104.2	AD	11, 12, 14, 15, 16, 17	16.9	1.46%	21	19.1	7.0	1.13%

STORM SYSTEM CALCULATIONS - LINE 'B'

STATION UP-STREAM	STATION DOWN-STREAM	DISTANCE (ft)	INCOMING LATERAL	D.A (S) COLLECTED (cfs)	Q_{100} (cfs)	SELECTED PIPE SLOPE (%)	SELECTED PIPE SIZE (in)	PIPE CAPACITY (cfs)	VELOCITY (fps)	Sf (ft/ft)
1+20.17	1+25.35	5.2	6' INLET	6	4.3	4.90%	18	23.2	2.4	0.17%
1+10.00	1+20.17	10.2	AD	13	5.1	4.90%	18	23.2	2.9	0.24%
1+00	1+10.00	10.0	-	-	5.1	14.67%	18	40.2	2.9	0.24%

STORM SYSTEM CALCULATIONS - LAT '1'

STATION UP-STREAM	STATION DOWN-STREAM	DISTANCE (ft)	INCOMING LATERAL	D.A (S) COLLECTED (cfs)	Q_{100} (cfs)	SELECTED PIPE SLOPE (%)	SELECTED PIPE SIZE (in)	PIPE CAPACITY (cfs)	VELOCITY (fps)	Sf (ft/ft)
0+09.97	0+00	10.0	AD	1	2.8	3.20%	18	28.3	1.6	0.071%

STORM SYSTEM CALCULATIONS - AREA DRAINS FOR BUILDINGS

DRAIN NUMBER	DISTANCE (ft)	D.A (S) COLLECTED (cfs)	Q_{100} (cfs)	SELECTED PIPE SLOPE (%)	SELECTED PIPE SIZE (in)	PIPE CAPACITY (cfs)	EXCESS CAPACITY (cfs)
AD-1	180	13	0.8	0.8%	12	3.2	2.4
AD-2	195	18	0.8	1.8%	12	4.8	4.0
AD-3	140	12	2.9	1.0%	12	3.6	0.6
AD-4	186	11, 12	5.9	1.8%	15	8.7	2.8
AD-5	99	10	2.9	4.6%	12	7.7	4.7
AD-6	82	8	5.9	2.8%	15	10.8	5.0
AD-7	138	15	2.9	1.0%	12	3.6	0.6
AD-8	145	15, 16	5.9	1.0%	15	6.5	0.5
AD-8A	40	14, 15, 16, 17	11.0	3.5%	15	12.1	1.1
AD-9	210	14, 17	5.0	2.1%	12	5.2	0.1
AD-10	84	9	0.8	2.6%	12	5.8	4.9

FROM	TO	Pipe Length feet	Q pipe cfs	Pipe Size in.	n	Sf ft/ft	HGL U/S Elev.	HGL D/S Elev.	HEAD LOSS CALCULATIONS V1 (in)	V2 (out)	$V1^2/2G$	$V2^2/2G$	Kj	$KjV1^2/2G$	Hk	Design HGL Elev.	Inlet HGL Reg. Analysis Elev.
									ft/sec	ft/sec	ft.	ft.		ft.	ft.		
Line A																	
3+97.46	4+01.01	3.55	3.70	27	0.013	0.00014	609.50	609.50	0.00	0.93	0.00	0.01	1.25	-	0.02	609.51	606.86
3+73.12	3+97.46	24.34	25.80	27	0.013	0.00594	608.86	608.69	0.93	6.49	0.01	0.65	1.00	0.01	0.64	609.50	
1+06.97	3+73.12	266.15	25.80	27	0.013	0.00694	608.37	606.53	6.49	6.49	0.65	0.65	0.48	-	0.31	608.69	
1+00	1+06.97	6.97	25.80	27	0.013	0.00694	606.30	606.25	6.49	6.49	0.65	0.65	0.35	-	0.23	606.53	
Lat A-1																	
0+14.64	0+27.31	12.67	5.20	24	0.013	0.00053	607.40	607.39	0.00	1.66	0.00	0.04	1.25	-	0.05	607.45	609.29
0+00	0+14.64	14.64	22.10	24	0.013	0.00954	606.67	606.53	1.66	7.03	0.04	0.77	1.00	0.04	0.73	607.39	
Lat A-2																	
0+00	0+99.20	99.20	16.90	21	0.013	0.01138	608.52	607.39	0.00	7.03	0.00	0.77	0.50	0.00	0.77	609.29	
Line B																	
1+18.42	1+25.35	6.93	2.80	18	0.013	0.00071	611.66	611.65	0.00	1.58	0.00	0.04	1.20	-	0.05	611.70	613.23
1+11.39	1+18.42	7.03	6.50	18	0.013	0.00383	611.47	611.44	1.58	3.68	0.04	0.21	0.75	0.03	0.18	611.65	
1+00	1+11.39	11.39	6.50	18	0.013	0.00383	611.37	611.33	3.68	3.68	0.21	0.21	0.35	-	0.07	611.44	
	*L-11	22.00	6.50	18	0.013	0.00383	611.33	611.24	3.68	3.68	0.21	0.21	-	-	0.00	611.33	
	*L-10	49.00	6.50	21	0.013	0.00168	611.20	611.12	3.68	2.70	0.21	0.11	0.35	-	0.04	611.24	
Lat 1																	
0+00	0+09.97	9.97	16.90	21	0.013	0.01138	607.81	607.70	0.00	7.03	0.00	0.77	1.25	-	0.96	608.77	607.14

Notes:
1. HG elevation at connection to existing pipe in Dallas North Parkway assumed to be the top of pipe.
2. HG elevation at connection to existing pipe in Spectrum Drive taken from Spectrum Drive Extension Plans

STORM SEWER NOTES:

1. CONTRACTOR SHALL REFER TO LANDSCAPE PLANS FOR LOCATION OF ALL AREA DRAINS AND SUBSURFACE TREE DRAINS.
2. CONTRACTOR SHALL REFER TO BUILDING PLANS FOR LOCATION OF ALL ROOF DRAINS.
3. ALL LANDSCAPE AREA DRAINS SHALL BE CONNECTED WITH 6" PVC SDR-35 DIRECTLY TO ADJACENT PVC STORM SEWERS SHOWN IN THIS SHEET AT 45 DEGREE ANGLE.
4. ALL TREE WELL DRAINS SHALL BE CONNECTED WITH 4" PVC SDR-35 DIRECTLY TO ADJACENT PVC STORM SEWERS SHOWN IN THIS SHEET AT 90 DEGREE ANGLE.
5. ALL ROOF DRAINS SHALL BE CONNECTED WITH PVC SDR-35 (PIPE SIZE TO MATCH ROOF DRAIN SIZE) DIRECTLY TO ADJACENT PVC STORM SEWERS SHOWN IN THIS SHEET AT 45 DEGREE ANGLE.
6. CONTRACTOR TO CONTACT DIGTESS AND POTHOLE ALL POTENTIAL CONFLICTS WITH PROPOSED DRAINAGE IMPROVEMENTS PRIOR TO CONSTRUCTION. CONTACT ENGINEER IMMEDIATELY IF A CONFLICT IS IDENTIFIED.
7. HORIZONTAL ALIGNMENT OF ALL PVC PIPE FOR AREA DRAINS, SUBSURFACE TREE DRAINS AND ROOF DRAINS (BELOW GRADE) SHALL BE THE SHORTEST DIRECT ROUTE TO THE ADJACENT PVC STORM SEWER SHOWN ON THIS SHEET.
8. CONTRACTOR SHALL REFER TO LANDSCAPE COURTYARD PLANS FOR INFORMATION ON THE 10' COURTYARD DRAINS.

RECORD DRAWING
BASED ON CONTRACTOR MARKUPS
NOT FIELD SURVEY

GRANTHAM & ASSOCIATES
F-005438
STATE OF TEXAS
BRUCE R. GRANTHAM
62659
REGISTERED PROFESSIONAL ENGINEER
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY: BRUCE R. GRANTHAM ON 11/10/09
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

DATE: FEBRUARY 2009	SCALE: 1"=40'	JOB NO.: 1057-06
DRAWN: G&A	DESIGN: BRG	REVIEWED: BRG	DWG: 1057STORMPLN01

MIXED USE DEVELOPMENT
TOWN OF ADDISON
STORM SEWER PLAN

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