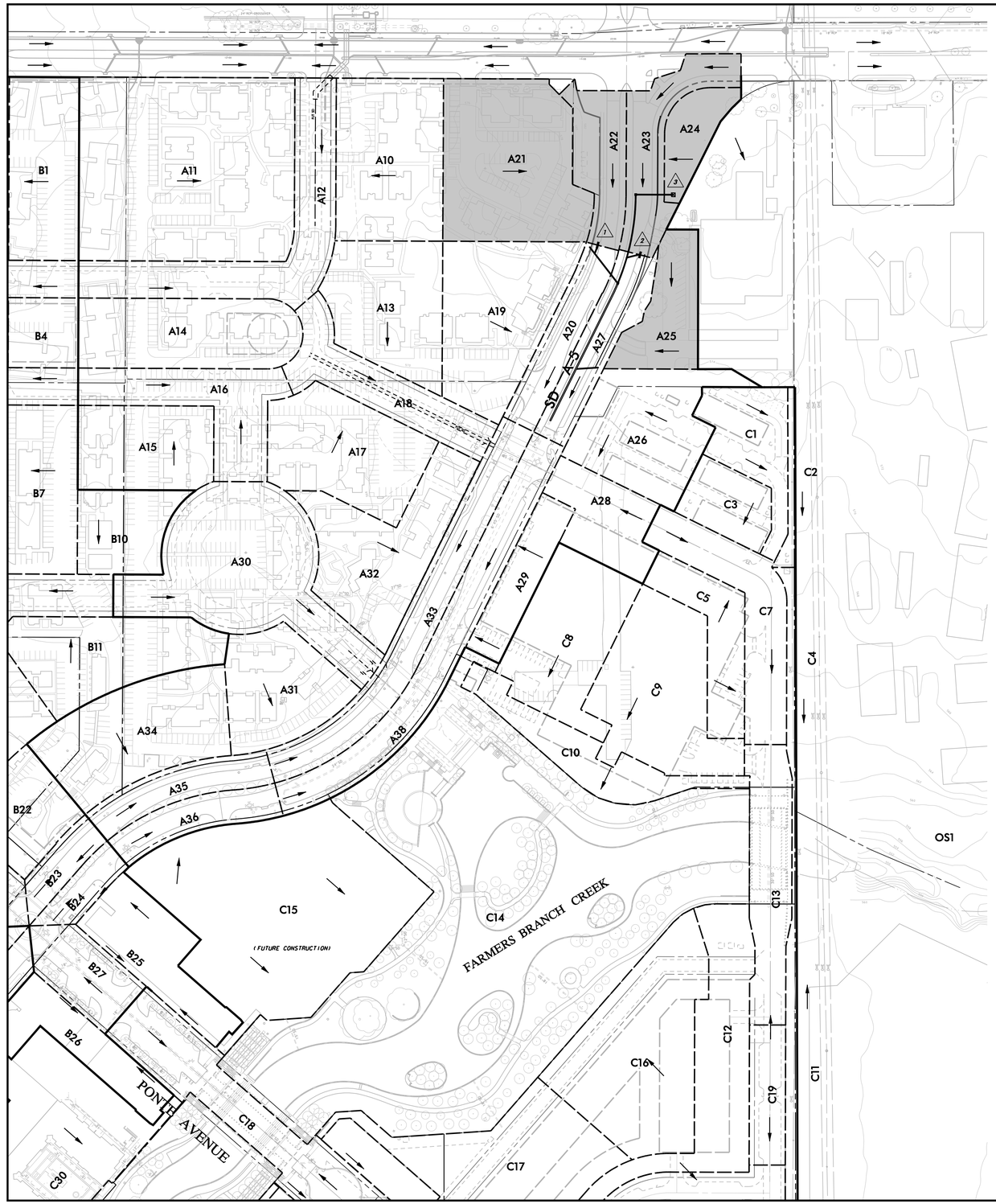

DRAINAGE AREA CALCULATIONS - PROPOSED

AREA NO.	AREA (acres)	RUNOFF COEFF.	CA	Tc (min)	I2 (in/hr)	Q2 (cfs)	I5 (in/hr)	Q5 (cfs)	I10 (in/hr)	Q10 (cfs)	I25 (in/hr)	Q25 (cfs)	I50 (in/hr)	Q50 (cfs)	I100 (in/hr)	Q100 (cfs)	COLLECTION POINT
A21	1.50	0.90	1.35	10.0	5.2	7.1	5.9	7.9	6.5	8.8	7.4	10.0	8.2	11.0	8.9	12.0	Future Storm Drain
A22	0.50	0.95	0.48	10.0	5.2	2.5	5.9	2.8	6.5	3.1	7.4	3.5	8.2	3.9	8.9	4.2	Curb Inlet
A23	0.60	0.95	0.57	10.0	5.2	3.0	5.9	3.4	6.5	3.7	7.4	4.2	8.2	4.7	8.9	5.1	Curb Inlet
A24	0.30	0.50	0.15	10.0	5.2	0.8	5.9	0.9	6.5	1.0	7.4	1.1	8.2	1.2	8.9	1.3	Temp Inlet - Future Storm Drain
A25	0.50	0.90	0.45	10.0	5.2	2.4	5.9	2.6	6.5	2.9	7.4	3.3	8.2	3.7	8.9	4.0	Future Storm Drain
	3.4					**15.7**		**17.6**		**19.4**		**22.3**		**24.4**		**26.6**	

STORM DRAIN CALCULATIONS - 100 YR

MH or INLET DESIGN POINT UPSTRM STATION	DNSTRM STATION	DISTANCE Between Points	Peak Flow in Pipe "Q"	PIPE SIZE	FRICTIONAL SLOPE "Sf"	HYDRAULIC GRADIENT ELEVATIONS UPSTRM	DNSTRM	V1 Flow IN	V2 Flow OUT	V2(^2) 2g	V1(^2) 2g	Kj Coeff Of Loss	KjV1(^2) 2g	Hj Head Loss Upstream	Elev of Hyd Grade	Elev Difference at Des Pt TC/FG	TC/FG - HGL DIFF.	REMARKS
		(ft)	(cfs)	(in)	(ft / ft)	(ft MSL)	(ft MSL)	(fps)	(fps)	(ft)	(ft)	(const)	(ft)	(ft)	(ft MSL)			
LINE A5																		
564.03	564.03	0.00		18	0.0061	575.40	575.40	---	0.00	0.00	---	1.25	---	0.00	575.40	579.00	3.60	DROP INLET
564.03	499.53	64.50	1.3	18	0.0002	575.40	574.95	0.00	0.74	0.01	0.00	0.50	0.01	0.00	575.40	579.00	3.60	MANHOLE W / 90° BEND
499.53	390.04	109.49	1.3	18	0.0002	574.94	570.08	0.74	0.74	0.01	0.01	0.75	0.00	0.01	574.95	579.47	4.52	60° WYE
390.04	343.45	46.59	6.4	18	0.0037	570.08	570.12	0.74	3.62	0.20	0.01	0.25	0.20	0.00	570.08	576.95	6.87	MANHOLE W / 60° BRANCH
343.45	220.00	123.45	22.6	24	0.0100	569.97	568.74	3.62	7.19	0.80	0.20	0.75	0.65	0.15	570.12	575.92	5.80	60° WYE
220.00	180.00	40.00	22.6	24	0.0100	568.74	564.95	3.62	7.19	0.80	0.20	0.00	0.80	0.00	568.74	571.98	3.24	
180.00	175.00	5.00	26.6	24	0.0138	564.95	564.88	7.19	8.47	1.11	0.80	0.00	1.11	0.00	564.95	570.69	5.74	
175.00	81.00	94.00	26.6	24	0.0138	564.88	563.58	8.47	8.47	1.11	1.11	0.00	1.11	0.00	564.88	569.73	4.85	EXIST 24" RCP

INLET CALCULATIONS

INLET NO.	INLET STATION	INLET TYPE	DRAINAGE CALCS 100 YR AREA NO.	DRAINAGE CALCS 100 YR PEAK FLOW (CFS)	CARRY OVER (CFS)	TOTAL FLOW (CFS)	ROADWAY SECTION CROSS SLOPE (FT/FT)	ROADWAY SECTION LONG. SLOPE (FT/FT)	ROADWAY SECTION MAX DEPTH (FT)	ROADWAY SECTION SPREAD OF FLOW (FT)	INLET LENGTH PROV. (FT)	INLET INLET FLOW (CFS)	INLET CARRY OVER (CFS)	COMMENTS
1	31+61.96, LT	CO-D	A22	4.2	0.00	4.20	0.0208	0.0240	0.20	9.46	10.0	3.06	1.14	
2	31+70.13, RT	CO-D	A23	5.1	0.00	5.10	0.0208	0.0240	0.21	10.17	10.0	3.43	1.67	
3	32+65.19, 81' RT	D-S	A24	1.3	0.00	1.30	0.2500	0.2500	0.13	1.13	8.0	1.13	0.00	TEMPORARY INLET

WARNING

CONTRACTOR IS TO CONTACT TEXAS ONE-CALL SYSTEM (1-800-245-4545) OR OTHER UTILITY LOCATING SERVICES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES. ICON CONSULTING ENGINEERS, INC. IS NOT RESPONSIBLE FOR KNOWING ALL EXISTING UTILITIES IN THE PROJECT AREA NOR FOR DEPICTING THE EXACT LOCATIONS OF UTILITIES ON THESE DRAWINGS.

BM #1 REF. ELEVATION = 559.47
SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE 112' NORTH OF VITRUVIAN WAY.

BM #2 REF. ELEVATION = 547.84
SQUARE CUT IN TOP OF CURB, NORTH MEDIAN END NOSE, AT INTERSECTION OF VITRUVIAN WAY AND MARSH LANE.

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

LEGEND

- A17 — DRAINAGE AREA DESIGNATION
- ——— MAJOR DRAINAGE AREA DIVIDE
- - - - - MINOR DRAINAGE AREA DIVIDE
- ← DIRECTION OF FLOW
- (1) INLET NUMBER

NORTH

0 50 100 150 200
GRAPHIC SCALE IN FEET
SCALE: 1"=100'

NO.	REVISION	BY	DATE

Addison

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
VITRUVIAN WAY EXTENSION

DRAINAGE AREA MAP & CALCULATIONS

icon Consulting Engineers, Inc.
Civil Engineers - Designers - Planners
250 W. Southlake Blvd., Suite 117
Southlake, Tx 76092 (817) 552-6210

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5029-01	ICE	ICE	OCT 01 2010	PW# 2010-02	9

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION

RECORD DRAWINGS 06/13/12