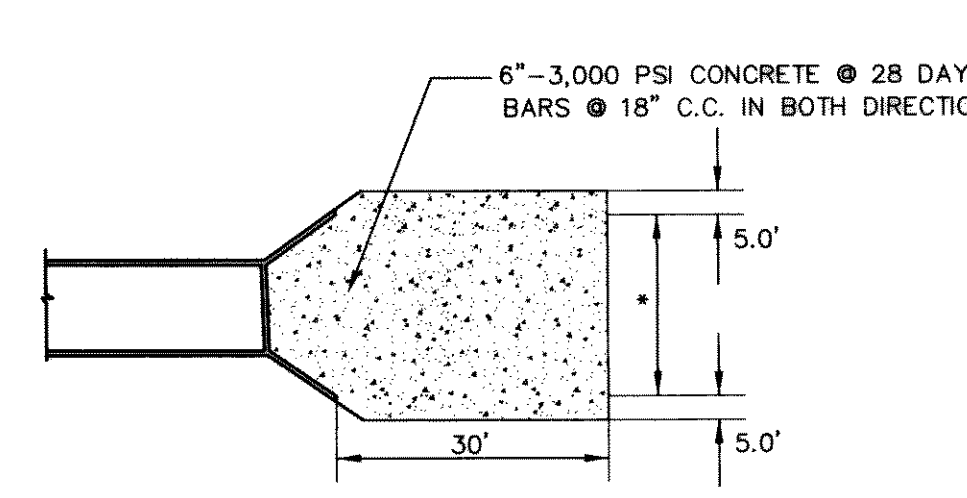


**SWALE DETAIL**  
SECTION A-A

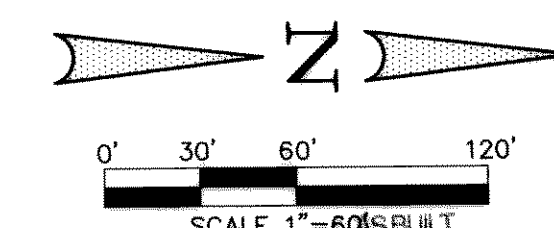
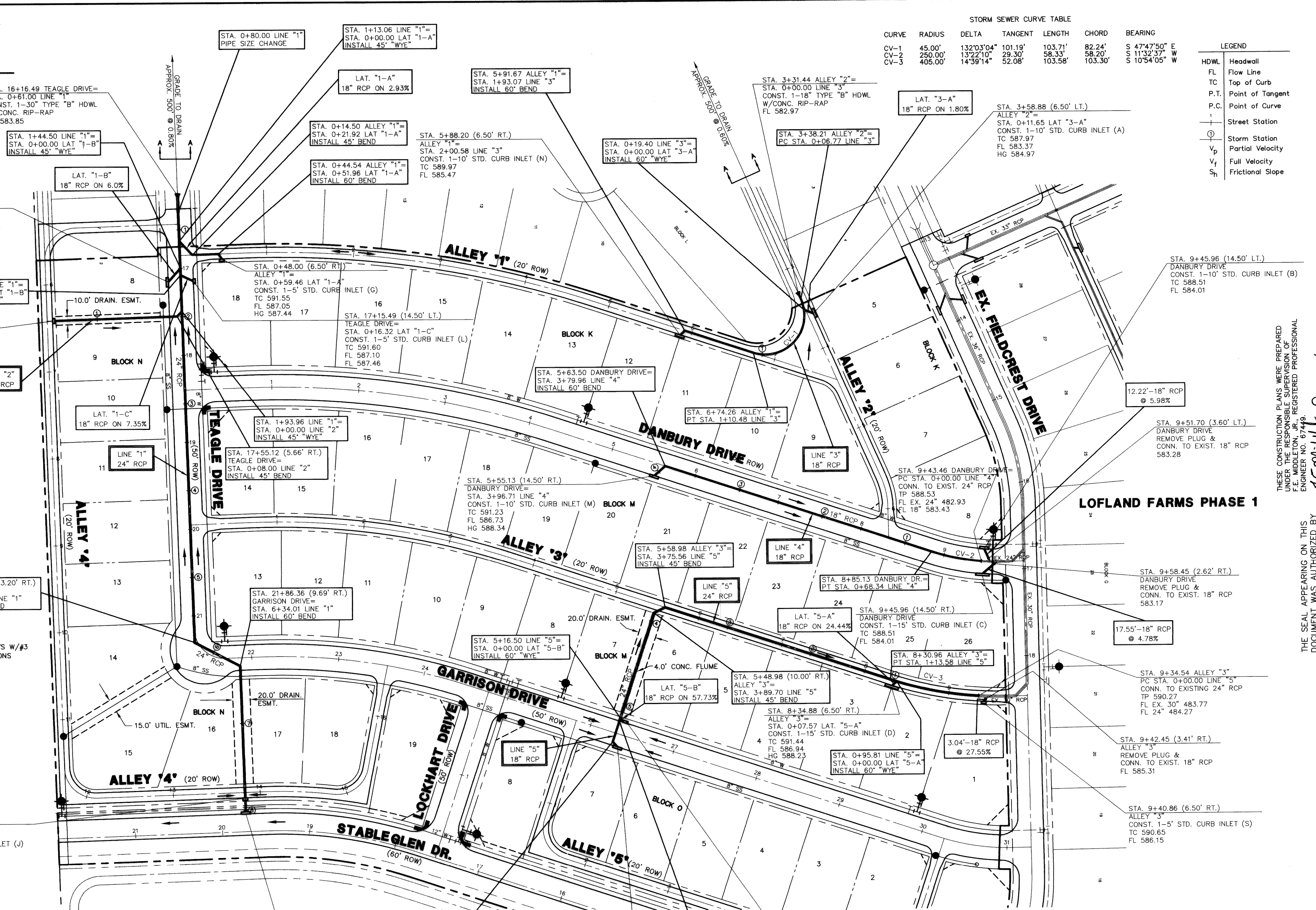


**TYPICAL CONC. RIP-RAP DETAIL**  
N.T.S.

PIPE CALCULATIONS										
DRAINAGE AREA	LINE NAME	Q <sub>100</sub> CAPACITY (c.f.s.)	INLET CAPACITY (c.f.s.)	TOTAL DRAINAGE AREA	TOTAL FLOW (c.f.s.)	PIPE SIZE	SLOPE %	V <sub>p</sub> (f.p.s.)	V <sub>t</sub> (f.p.s.)	CONDUIT CAPACITY (c.f.s.)
K	LINE "1"	8.20	8.20	K	8.20	21" RCP	0.50	5.09	3.41	11.20
J	LINE "1"	6.66	6.66	K+J	14.86	24" RCP	0.50	5.78	4.73	16.0
I	LINE "2"	2.84	2.50	I	2.50	18" RCP	1.10	5.05	1.41	11.02
L	LINE "1"	3.35	3.35	K+J+H+L	20.71	24" RCP	1.80	10.39	6.59	30.35
H	LINE "1"	5.34	5.34	K+J+H+L+H	26.05	24" RCP	1.80	10.86	8.29	30.35
G	LINE "1"	2.65	2.65	K+J+H+L+H+G	28.70	24" RCP	1.80	10.99	9.14	30.35
	LINE "1"			K+J+H+L+H+G	28.70	30" RCP	0.60	7.33	5.85	31.77
N	LINE "3"	6.08	6.08	N	6.08	18" RCP	2.0	7.99	3.44	14.86
M	LINE "3"	10.10	10.10	N+A	10.10	18" RCP	1.0	6.78	5.72	10.50
A	LINE "4"	8.38	8.38	M	8.38	18" RCP	4.0	11.22	4.74	21.01
F	LINE "5"	10.68	10.68	F	10.68	18" RCP	8.10	15.50	6.04	29.90
E	LINE "5"	16.95	16.95	F+E	16.95	24" RCP	0.60	6.35	5.40	17.52
D	LINE "5"	25.67	25.67	F+E+D	25.67	24" RCP	0.60	6.35	8.17	25.67

STORM SEWER CURVE TABLE						
CURVE	RADIUS	DELTA	TANGENT	LENGTH	CHORD	BEARING
CV-1	45.00'	132°03'04"	101.19'	103.71'	82.24'	S 47°47'50" E
CV-2	250.00'	13°22'10"	29.30'	58.33'	58.20'	S 11°32'37" W
CV-3	405.00'	14°39'14"	52.08'	103.58'	103.30'	S 10°54'05" W

- LEGEND**
- HDWL Headwall
  - FL Flow Line
  - TC Top of Curb
  - P.T. Point of Tangent
  - P.C. Point of Curve
  - Street Station
  - Storm Station
  - V<sub>p</sub> Partial Velocity
  - V<sub>f</sub> Full Velocity
  - S<sub>n</sub> Friction Slope



Winkelman & Associates, Inc. hereby states that this plan, to the best of our knowledge is "As Built." Modifications from the originally approved construction documents have been made as per information provided by the contractor Winkelman & Associates, Inc. does not certify as to the correctness or quality of construction as no field inspection was performed.

*F.E. Middleton* 12-10-01  
WINKELMANN & ASSOCIATES, INC. DATE

**BENCHMARK:** ELEV. = 600.69  
CITY OF ROCKWALL R-19  
BRASS MONUMENT AT THE N/W CORNER OF  
SILVERVIEW & DIAMOND WAY, 500' ± SOUTH OF  
S.H. 276.

**BENCHMARK:** ELEV. = 583.56  
R.R. SPIKE SET IN THE CENTERLINE OF S.H. 276  
3600± WEST OF F.M. 549

**Winkelman & Associates, Inc.**  
CONSULTING CIVIL ENGINEERS & SURVEYORS  
6700 Inverness Plaza Drive, Suite 100  
Rockwall, Texas 75087  
(972) 967-9900  
www.winkelman.com

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON, JR., REGISTERED PROFESSIONAL ENGINEER NO. 67449.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY F.E. MIDDLETON, JR., P.E. #67449

W.H. BAIRD SURVEY ABSTRACT NO. 25  
CITY OF ROCKWALL  
ROCKWALL COUNTY, TEXAS

CONTINENTAL HOMES  
621 WEST COLLEGE STREET  
GRAPEVINE, TEXAS 76051

STORM SEWER PLAN  
LOFLAND FARMS, PHASE 2

Scale: 1"=60'  
Date: 2-14-01  
Designed By: NK/DA  
Drawn By: DA  
Checked By: FEM  
File: S2001ST2.DWG View:  
Project No.: 3200101

STORM SEWER PLAN  
LOFLAND FARMS, PHASE 2

**SHEET**  
11  
OF  
20