

PREDEVELOPED FLOWS: $I_p = 3.83$ $I_{100} = 7.37$

N.W. Corner: $DA = 84.1$ acres
 $C = 0.38$
 $Q_2 = 78.7$ cfs
 $Q_{100} = 151.5$ cfs

S.W. Corner: $DA = 54.6$ acres
 $C = 0.38$
 $Q_2 = 79.5$ cfs
 $Q_{100} = 153.0$ cfs

N.E. Corner: $DA = 24.8$ acres
 $C = 0.38$
 $Q_2 = 36.1$ cfs
 $Q_{100} = 69.4$ cfs

S.E. Corner: $DA = 20.0$
 $C = 0.38$
 $Q_2 = 29.1$ cfs
 $Q_{100} = 56.0$ cfs

Notes:

Pre-developed Q_{100} for N.W. Corner draining through RR tracks is 151.5 cfs and post-developed $Q = 160.0$ cfs. Due to the size of the drainage basin becoming smaller through street drainage to the East, the pre- and post-developed flows are approximately the same.

Drainage to the North shall be controlled by the amount of flow that can pass in the drainage ditch in the 30' Drainage Basement to the North of the property.

Drainage along Lark Lane shall be in an enclosed system installed with the street fixture to service Lark Ln. and Lark 2nd Addition along with the Exception in the North east corner of the preliminary plat.

Flow	Area (sq. ft.)	
130	40374	18179 = 58553
131	43690	+ 20927 = 64617
132	47142	+ 23997 = 71139
133	50733	+ 27198 = 77931
134	54472	+ 30606 = 85078
135	58386	+ 34272 = 92660
136	101055	
137	109712	
138	118471	
139	127332	
140	148339	
141	163789	
142	183749	

Spillway @ 141.5

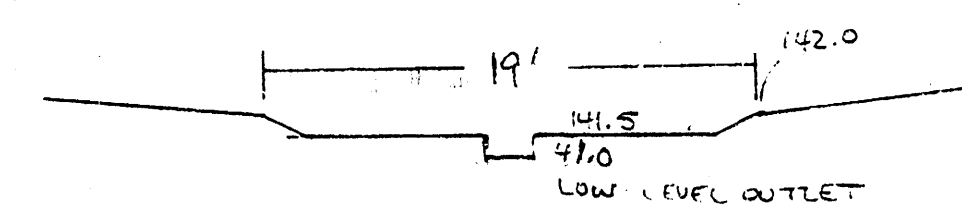
$Q_{100} = 140$ cfs

$Q_{out} = 60$ cfs

RR Box - 6x2'
 Rock Bottom: JDS $n = 0.023$
 Slope = 0.5%

$7.4 \text{ ac ft} = \frac{322,344 \text{ cu ft}}{160,000 \text{ cu ft}} = 2.0 \text{ ft rise}$

STATIC POOL @ 140.0
 WEIR ELEV. = 141.5
 MAX. STORAGE = 7.4 ac ft.
 WEIR: 15' BOTTOM
 4:1 SIDESLOPES
 BOTTOM SLOPE OF 1.5%



Project: LARK ADDITION State: KS
 County: SEDGWICK Checked: Date: 09-14-94
 Subtitle: DETENTION POND DESIGN

Drainage Area: 55 Acres Rainfall Frequency: 100 years
 Rainfall-Type II
 24-Hour Rainfall: 7.37 inches Runoff Curve Number: 82
 Peak Inflow: 140 cfs
 Peak Outflow: 60 cfs
 Runoff Volume: 5.3 inches
 Detention Basin Storage Volume: 1.62 inches or 7.4 acre feet

Trapezoidal Channel Analysis & Design
 Open Channel - Uniform flow

Worksheet Name:

Comment: WEIR FOR LARK DETENTION POND

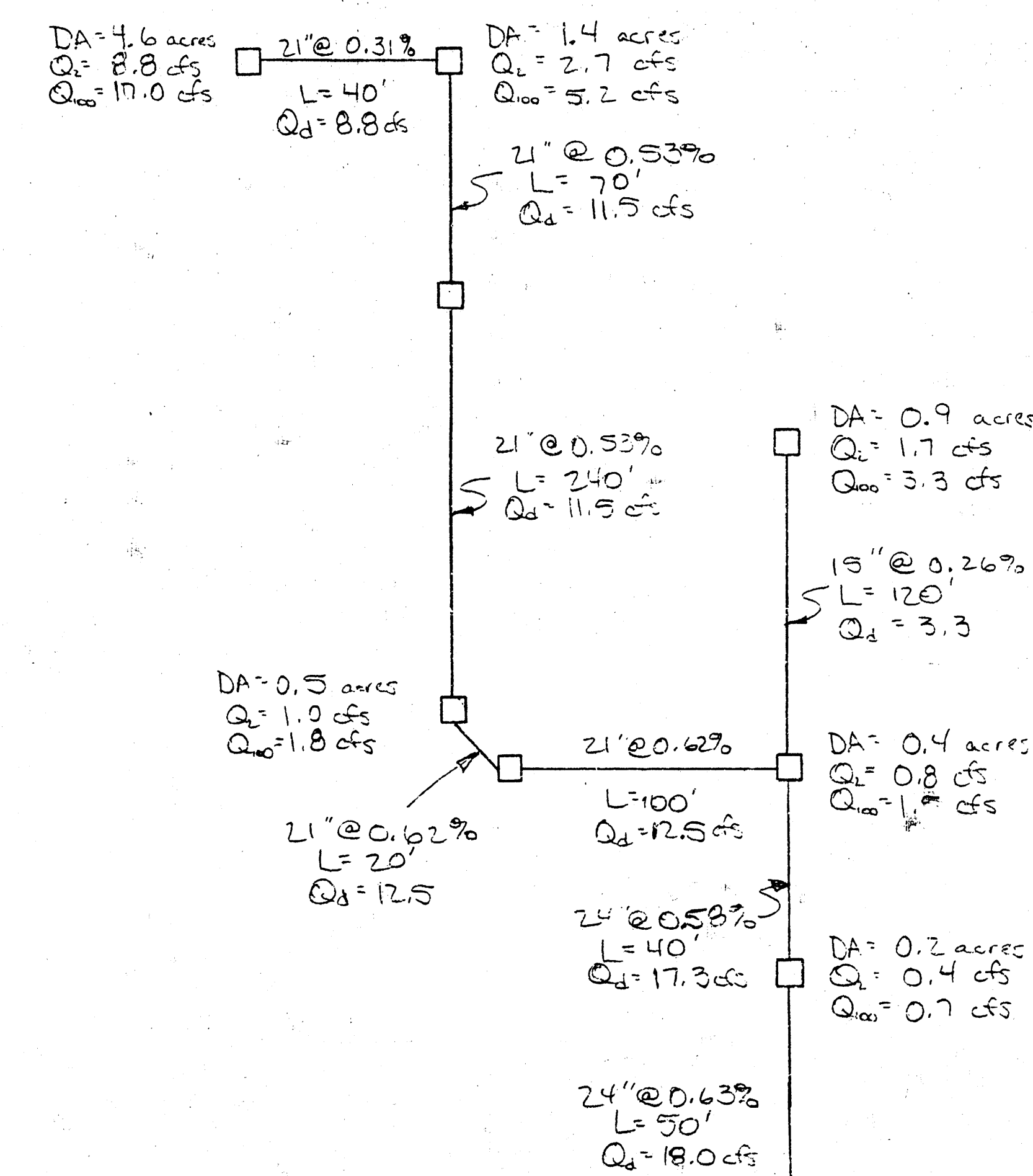
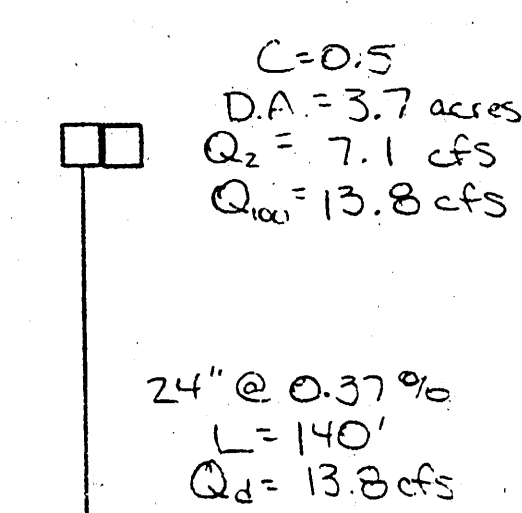
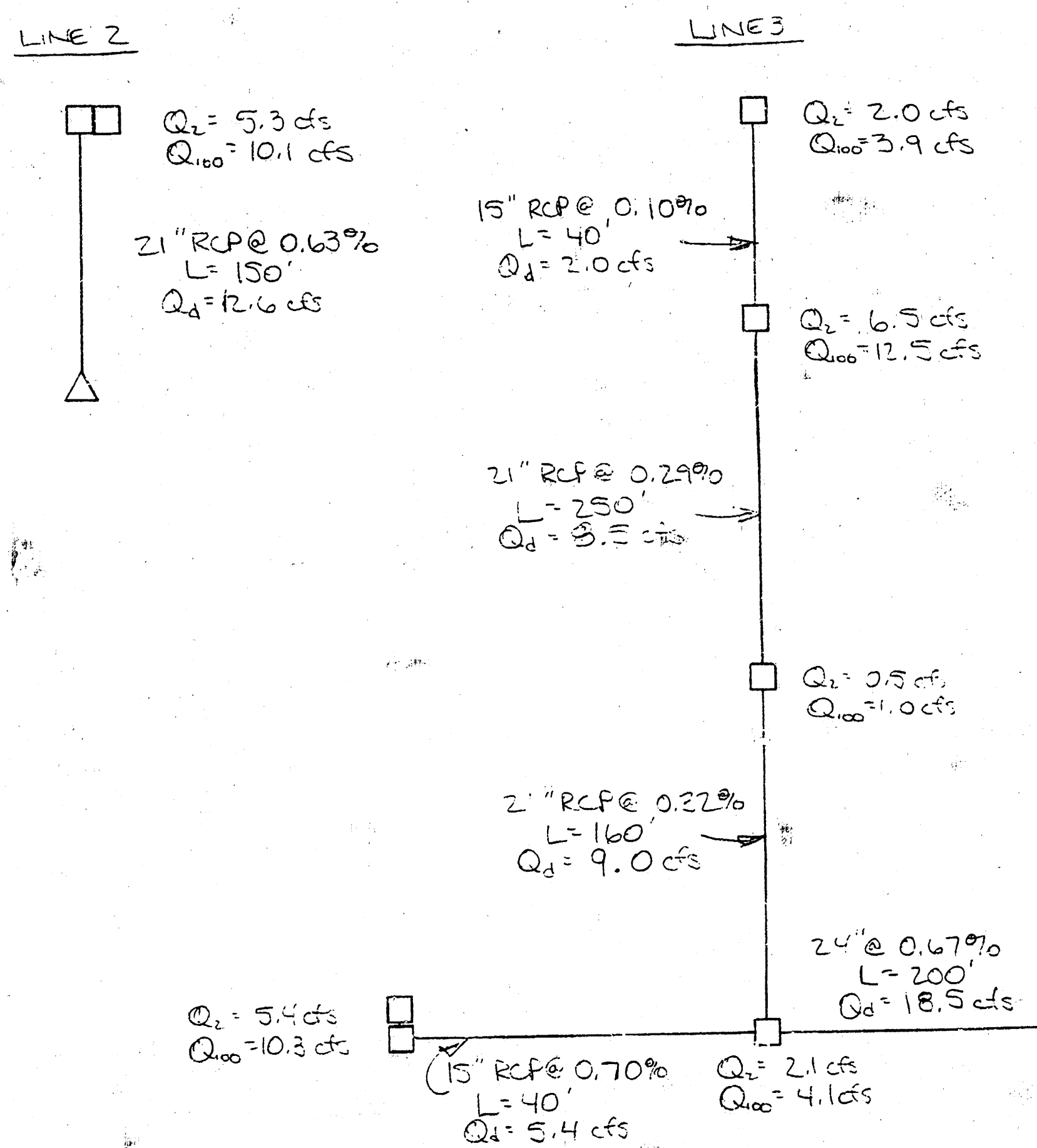
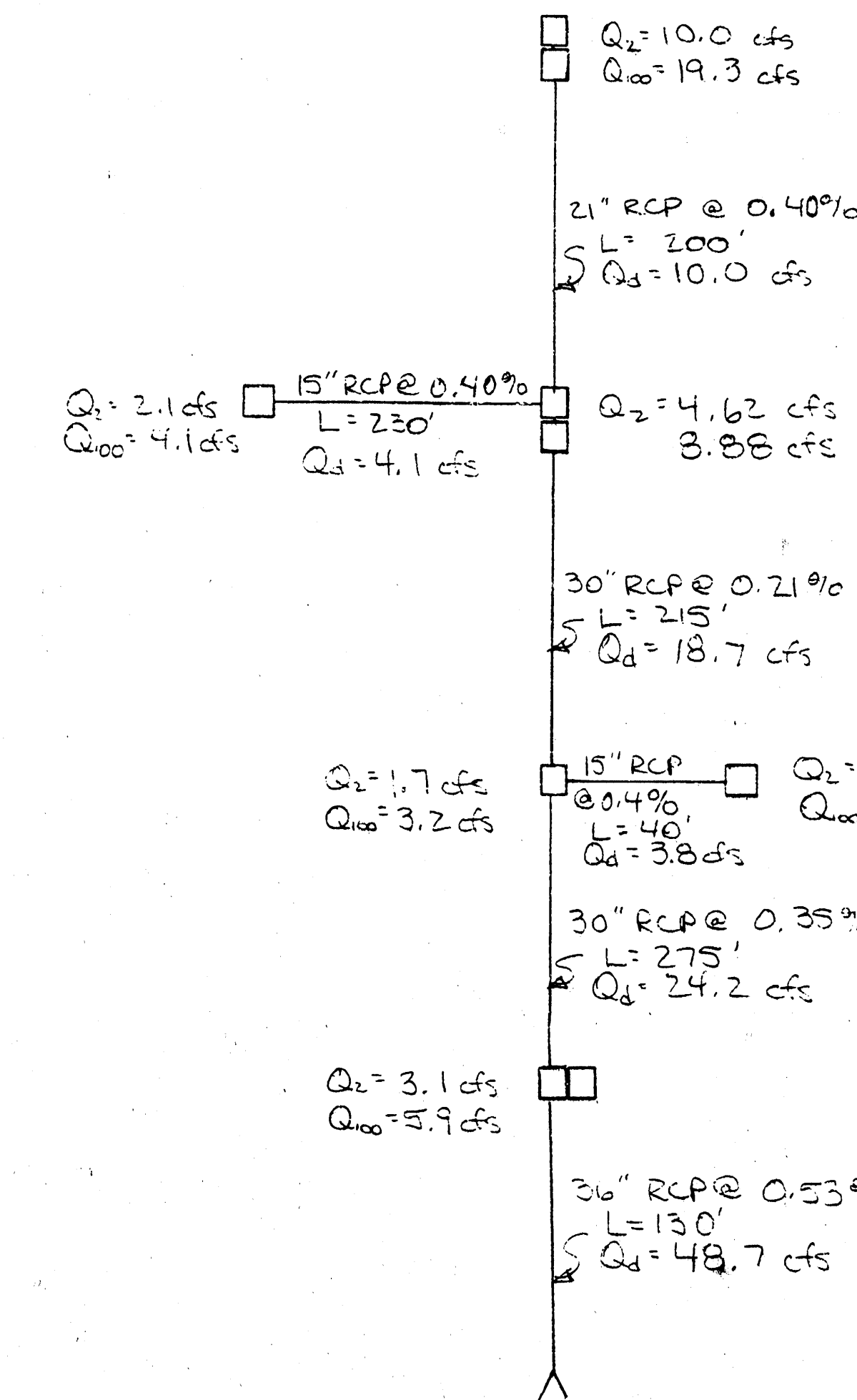
Solve For Channel Slope

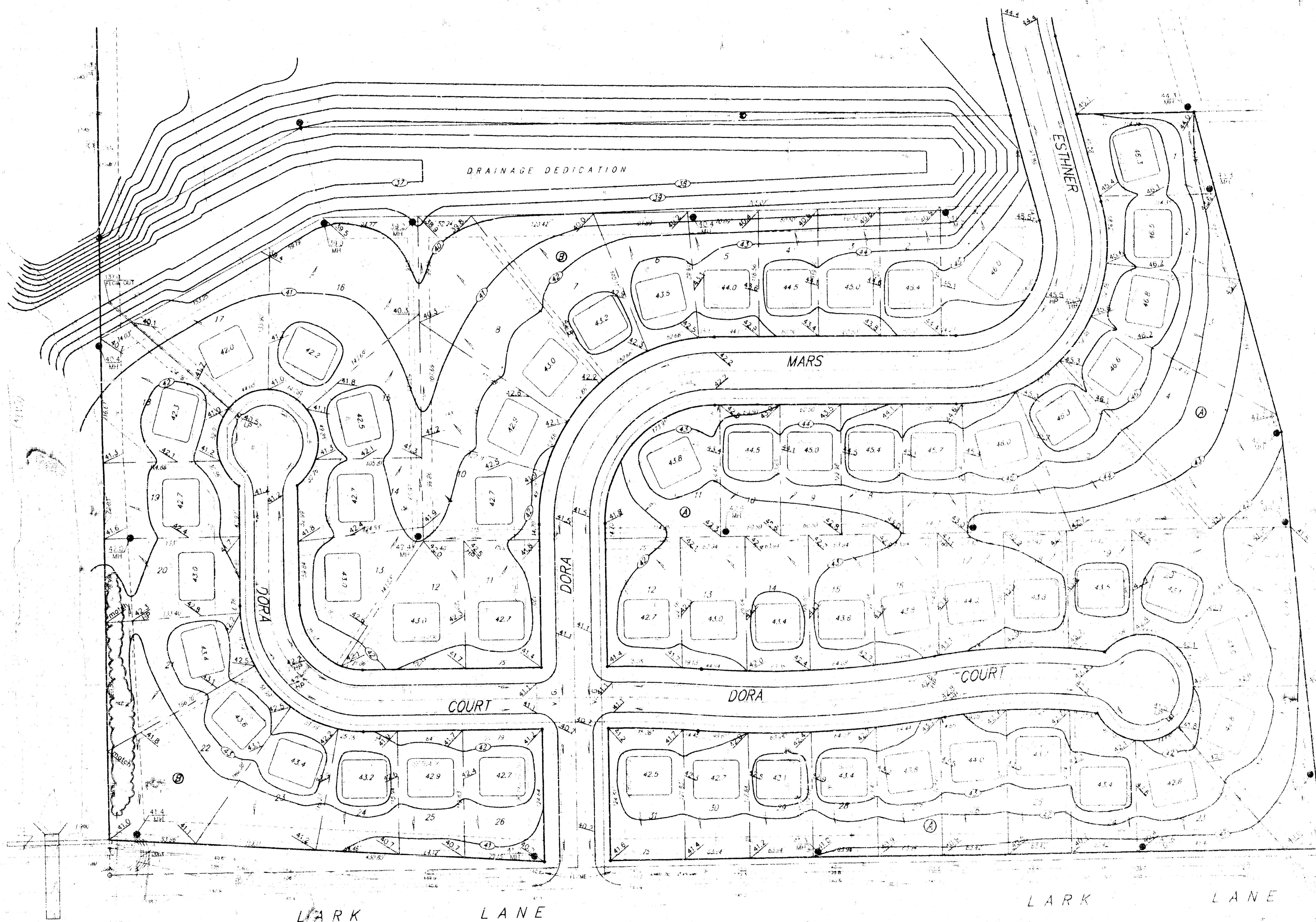
Given Input Data:

Bottom Width: 15.00 ft
 Left Side Slope: 4.00:1 (H:V)
 Right Side Slope: 4.00:1 (H:V)
 Manning's n: 0.015
 Depth: 0.50 ft
 Discharge: 60.00 cfs

Computed Results:

Channel Slope: 0.0150 ft/ft
 Velocity: 7.06 fps
 Flow Area: 8.50 sf
 Flow Top Width: 19.00 ft
 Wetted Perimeter: 19.12 ft
 Critical Depth: 0.74 ft
 Critical Slope: 0.0039 ft/ft
 Froude Number: 1.96 (flow is supercritical)



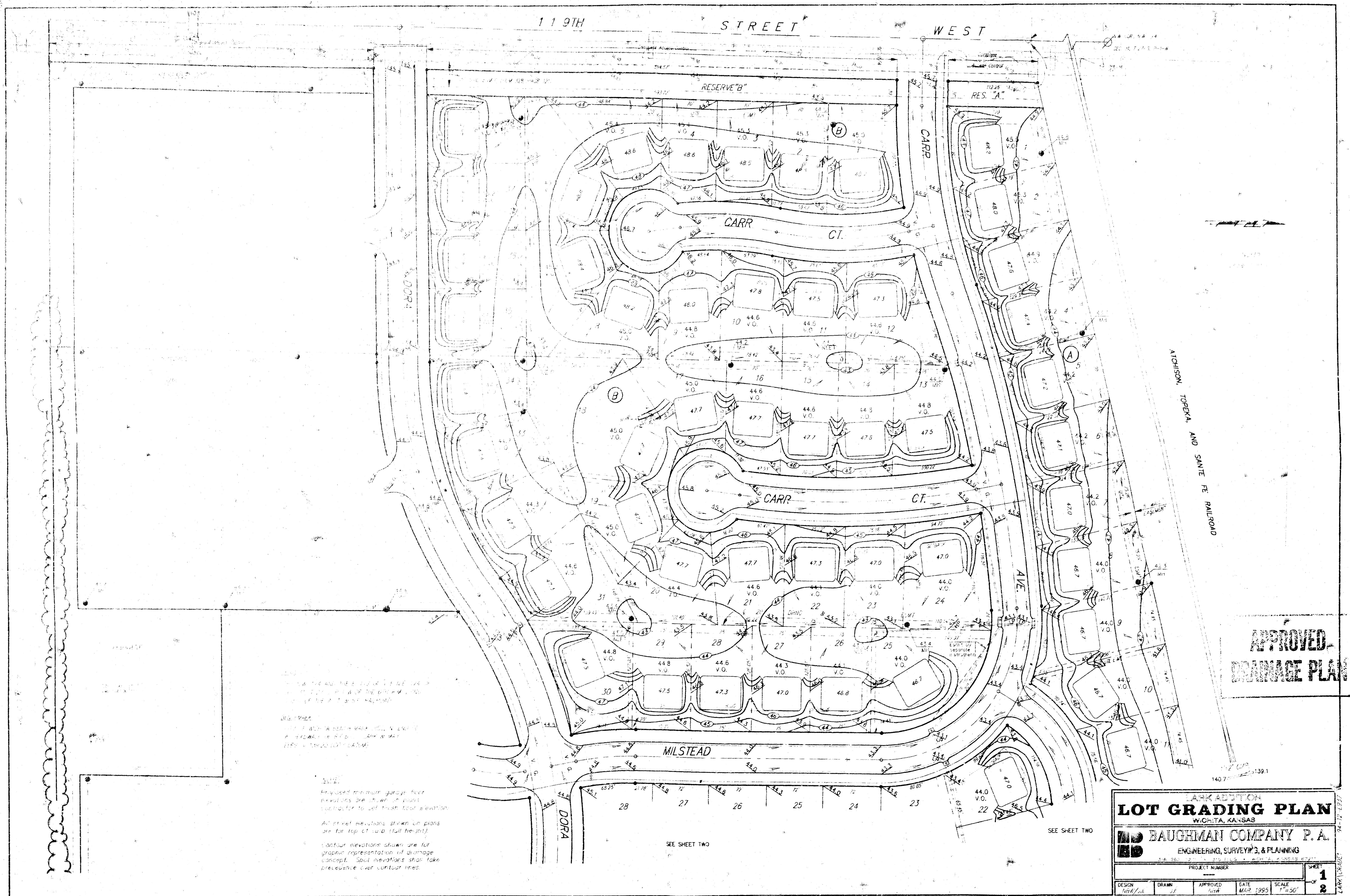


APPROVED
DRAINAGE PLAN

LOT GRADING PLAN

BAUTZMAN COMPANY, P.A.
ENGINEERING, SURVEYING & PLANNING

DATE	BY	CHECKED	APPROVED



1. THE GRADES SHOWN ON THIS PLAN ARE BASED ON THE SURVEY DATA AND THE GRADES SHOWN ON THE PREVIOUS EDITION OF THIS PLAN.

2. THE GRADES SHOWN ON THIS PLAN ARE BASED ON THE SURVEY DATA AND THE GRADES SHOWN ON THE PREVIOUS EDITION OF THIS PLAN.

3. THE GRADES SHOWN ON THIS PLAN ARE BASED ON THE SURVEY DATA AND THE GRADES SHOWN ON THE PREVIOUS EDITION OF THIS PLAN.

4. THE GRADES SHOWN ON THIS PLAN ARE BASED ON THE SURVEY DATA AND THE GRADES SHOWN ON THE PREVIOUS EDITION OF THIS PLAN.

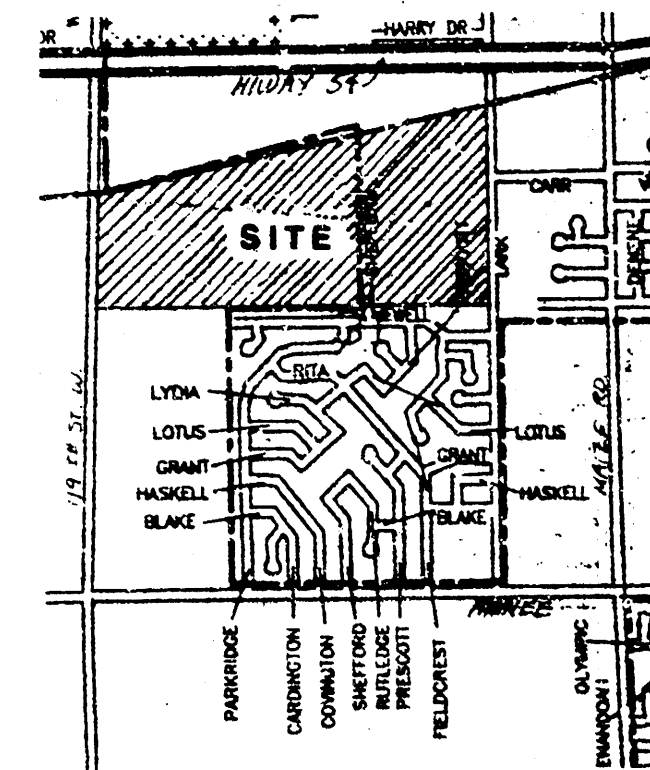
LOT GRADING PLAN				
WICHITA, KANSAS				
BAUGHMAN COMPANY P.A.				
ENGINEERING, SURVEYING, & PLANNING				
PROJECT NUMBER				
DESIGN	DRAWN	APPROVED	DATE	SCALE
10/10/95	10/10/95	10/10/95	10/10/95	1"=30'



DRAINAGE PLAN

**PRELIMINARY PLAT
LARK ADDITION
WICHITA, SEDGWICK COUNTY, KANSAS**

U. S. H W Y 54



VICINITY MAP

