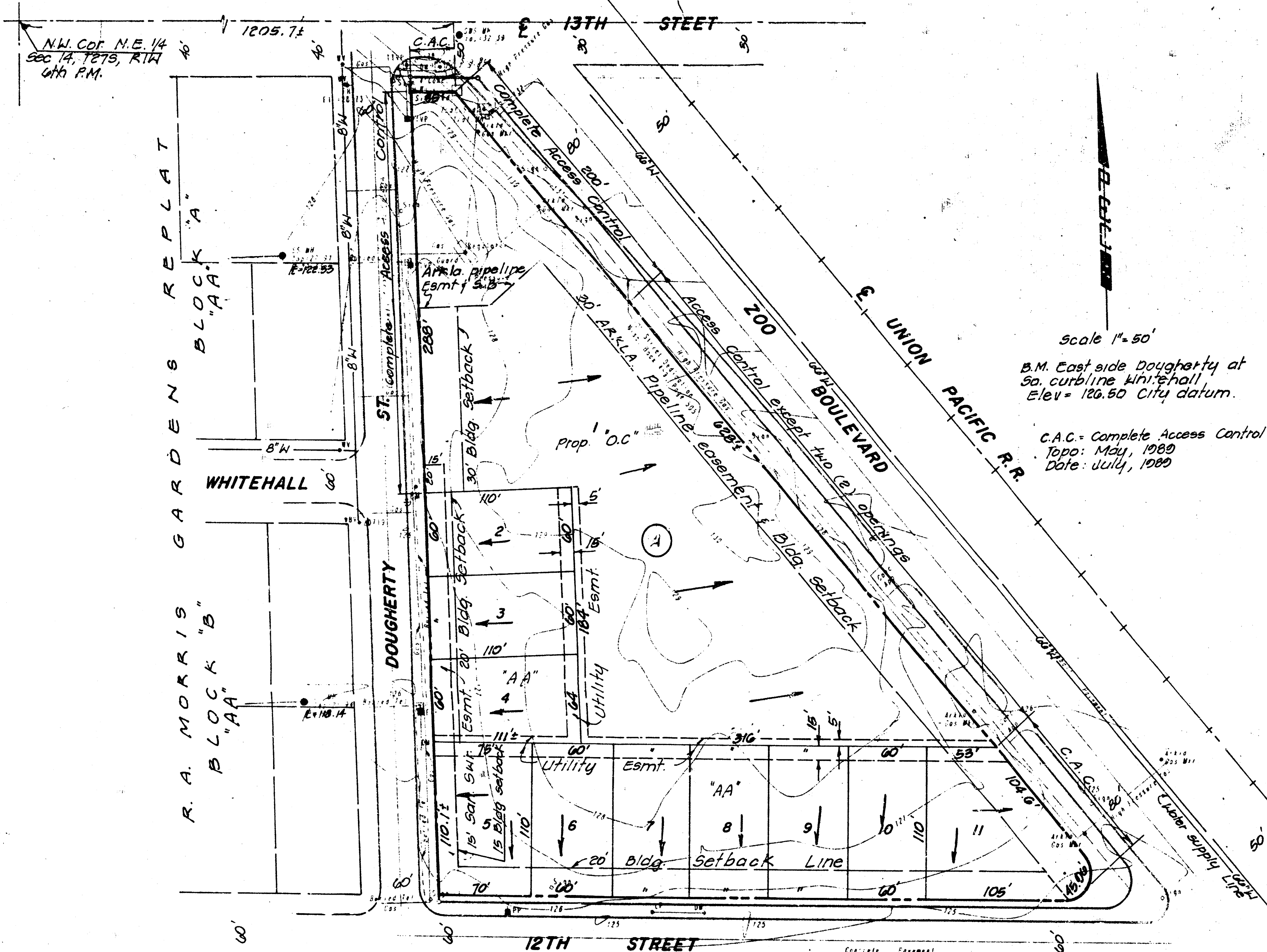


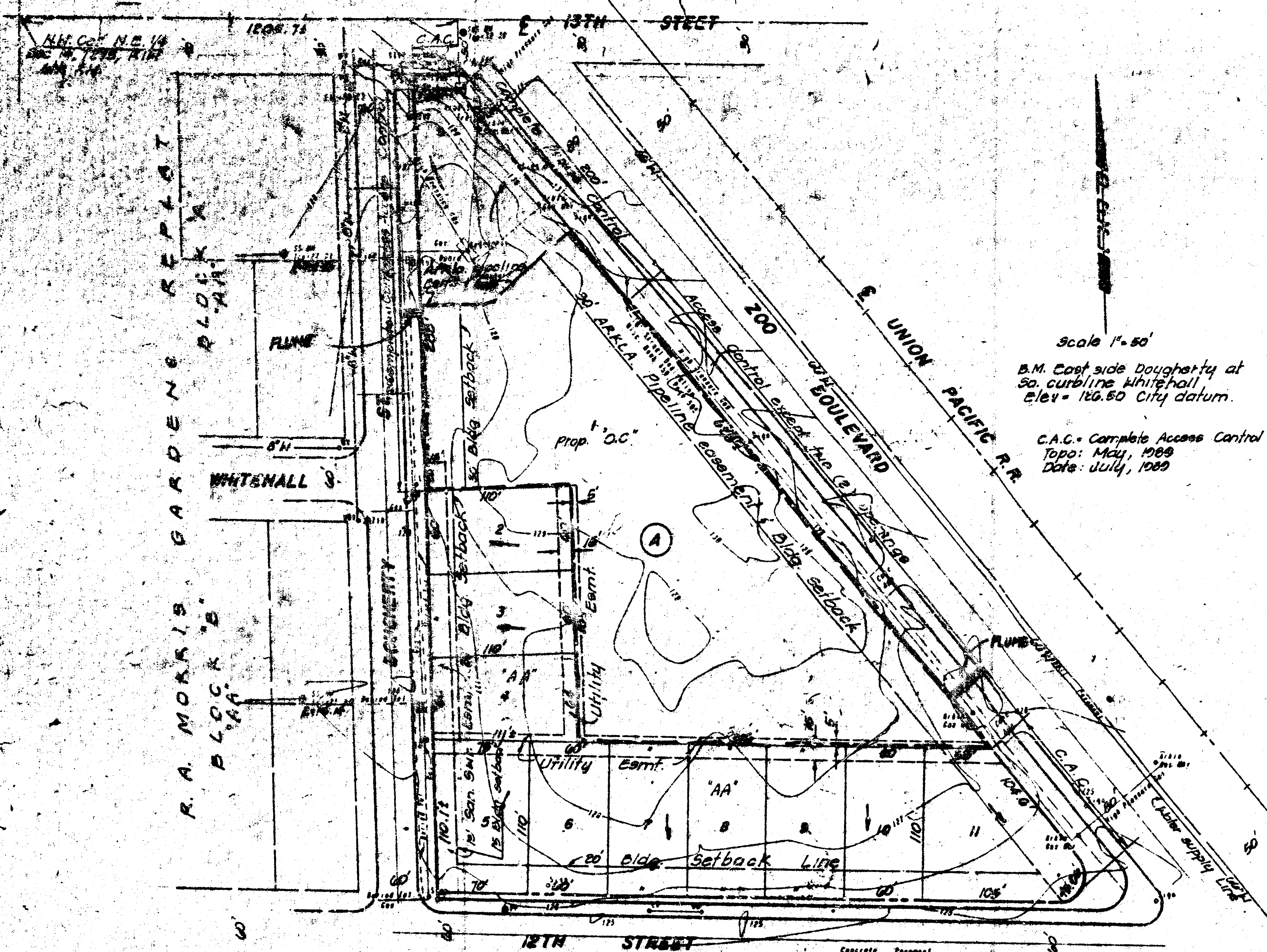
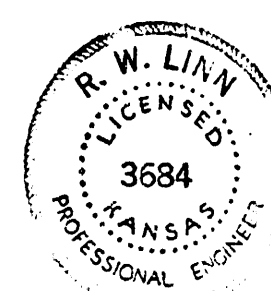


Drainage Concept/Plan
PRELIMINARY PLAT OF
THUNDERBIRD 7TH ADDITION

Owner: Thunderbird Realty Service, Inc.
 c/o Dave Entriem
 6700 W. Central #104 67212

Engineer: Professional Engineering Consultants p.a.
 1440 English 67211

Note: All lots shall be graded
 to drain to existing streets via
 drives, flumes, and/or other
 approved drainage facilities



DRAINAGE PLAN

THUNDERBIRD 7TH ADDITION

Owner: Thunderbird Realty Service, Inc.
 c/o Dave Entriem
 6700 W. Central #104 67212

Engineer: Professional Engineering Consultants p.a.
 1440 English 67211

NOTES:

1. Stormwater detention shall be provided on Lot 1, Block A to store difference between Pre-Developed & Post-Developed conditions.
2. Size & location of storm shall be determined at time of development of Lot 1, Block A.



PROFESSIONAL
 ENGINEERING CONSULTANTS, PA
 1440 E. English
 WICHITA, KANSAS 67211

LETTER OF TRANSMITTAL

October 16, 1989 36-89140-1352
 Mr. Vicky Huang, P.E.
 Thunderbird 7th Addition

TO: Mr. Michael E. Lindebak, P.E.
 City Engineer
 455 North Main
 Wichita, KS 67202

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via the following items:

☐ Shop drawings ☒ Prints ☐ Plans ☐ Samples ☐ Specifications

☐ Copy of letter ☐ Change order ☐

COPIES	DATE	NO.	DESCRIPTION
2	10-16-89		Drainage Plan & Supporting Calculations

THESE ARE TRANSMITTED AS CHECKED BELOW:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval

☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution

☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints

☒ For review and comment ☐

☐ FOR BIDS DUE _____ 19 _____ PRINTS RETURNED AFTER LOAN TO US

REMARKS:

Date: 10-3-89 Page 1 of 2

Project: Thunderbird 7th Addition

Item: Drainage

Pre-Developed		$Q_{100} = 5.17 \text{ cfs}$
<u>C_{100}</u>		
Soil Type	Hyd. Group	Land Use
U ₁	B	Open Space
		Urban Lawn
		1-2%
<u>I_{100}</u>	assume $I_1 = 15 \text{ min.}$	
	$\therefore I_{100} = 7.27$	
<u>A</u>	$(1/4 \times 320 \times 370)$	
	$= (55 \times 140 \times 14)$	
	$= (55 \times 195)$	$= 75,205 \text{ SF} = 1.75 \text{ A}$
$Q_{100} = 0.81 \times 7.27 \times 1.75 = 5.2 \text{ cfs}$		

Date: 10-3-89 Page 2 of 2

Project: Thunderbird 7th Addition

Item: Drainage

Post-Developed	Q ₁₀₀ = 10.2 cfs		
C ₁₀₀			
Soil Type	Hydro Group	Land Use	C ₁₀₀
U ₁	B	Neighborhood Business	0.86
I ₁₀₀	Assume I ₁ = 15 min.		
	∴ I ₁₀₀ = 7.37		
A	1.75 A		
Q ₁₀₀	0.86 × 7.37 × 1.75 = 10.2 cfs		