HYDROLOGY

F22/D9

LUTTRELL SUBDIVISION

TRACT C- DRAINAGE

F22-D9

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
David Rusk

May 29, 1979

F22-D9

Chambers, Campbell, Isaacson & Chaplin, Inc.
3500 Indian School Road N.E.
Albuquerque, New Mexico 87106

Re: Luttrell Subdivision - Tract "C" Drainage Study

Gentlemen:

Due to the large number of drainage reports received in the past three weeks by the City Engineer's Office and to the limited staff resources, it has not been possible to reply within the time specified by the AMAFCA Res. 72-2. This letter is to acknowledge the reception of your drainage report and assure you that the best efforts will be made to reply in the shortest possible time.

Very truly yours,

Richard S. Heller

Richard S. Heller
City Engineer

BC/RSH/ms

cc - Richard Leonard-AMAFCA
Drainage File

Reading

A
DRAINAGE STUDY
FOR
TRACT "D" OF LUTTRELL
SUBDIVISION

PREPARED BY:

CHAMBERS, CAMPBELL, ISAACSON & CHAPLIN, INC.

3500 Indian School Road N.E.

Albuquerque, New Mexico 87106

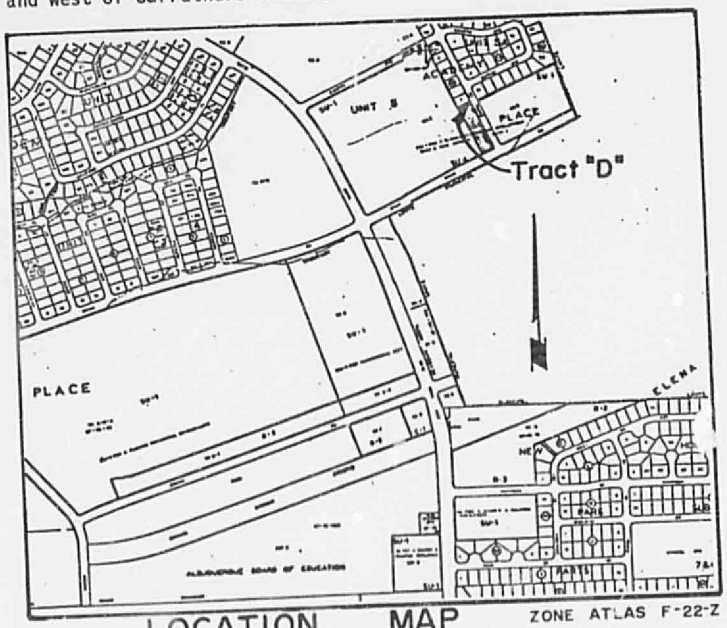
September 11, 1978

PURPOSE

The purpose of this report is threefold - to determine the drainage characteristics of the subject property in its undeveloped condition, analyze the internal flows in its developed state with recommendations for compliance to the Albuquerque Metropolitan Arroyo Flood Control Authority's (A.M.A.F.C.A.) requirements, and make recommendations for positive drainage control to safeguard the subdivision and expedite drainage flows across the site proper.

INTRODUCTION

Luttrell Subdivision, Tract "D", formally known as Academy Place No. 5, Tract "D", is located in the Northeast Heights of Albuquerque, north of Spain Road, N.E., and west of Carruthers Avenue, N.E.



LOCATION MAP ZONE ATLAS F-22-Z

The overall site comprises 1.13 acre of land characterized by rolling terrain covered with a light growth of weeds and cacti. There is an approximate 1.0 foot drop in elevation from the south to the north and 3.0 feet from the east to the west. The property is surrounded on the east, south and west by undeveloped land and with Academy Place No. 5 abutting it to the north. The Bear Arroyo Tributary lies to the east and south. The flood plain limits of this arroyo do not encroach upon the acreage known as Tract "D".

In the following pages, design data will be presented to verify the conclusion that runoff flows after development will not excessively exceed runoff conditions before development. Furthermore, conclusions will be reached as regards to site's ponding and runoff control.

DRAINAGE CONDITIONS

The undeveloped and developed drainage conditions are shown on the following page (Drainage Site Plan). Shown are the ponding areas, direction of flow individual drainage basins, and offsite flows.

RECOMMENDATIONS

1. Where offsite sheet flows from the east intersect the eastern boundary, they should be retained by a small ditch and dike system running the length of Tract "D" on the east side of Carruthers Ave. This is to prevent any silting up of local thoroughfares. This minor system would be abandoned as soon as Tract "C" becomes developed. (See Exhibit I & II).

2. Carruthers Ave. shall have a water block or defined vertical curve at the intersection at Spain Raod. Therefore all flows will flow to the north within the curb limits of Carruthers Ave.

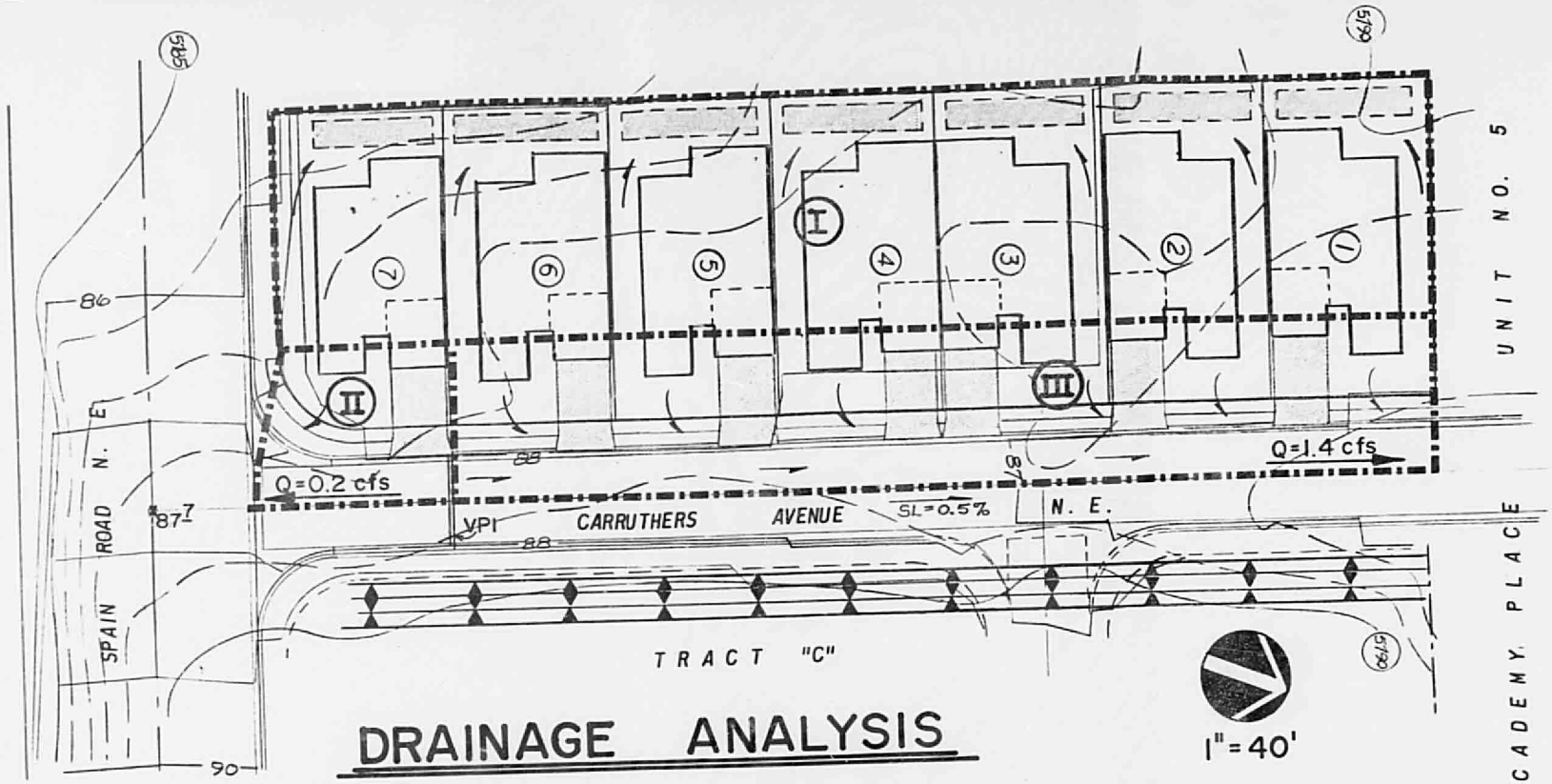
3. Rear yard ponding will require a minimum of 13% of the area drained to the pond. This will allow a maximum depth of 1.0'. The limits of the pond water should be kept a minimum of 5' away from the dwelling unit's foundation.

4. Grades along the intersection of Spain Road and Carruthers Ave. be coordinated with Mike Emory of Bohannon, Huston Inc. such that they do not handicap the development to the south.

SUMMARY

The SU-1 development of Tract "D", Luttrell Subdivision, shall allow minimal flows onto an already over burdened Spain Road. The site shall be protected from overland sheet flows by means of a ditch and dike system. Developed flows are allowed to flow northward within Carruthers Ave.

In conclusion, the development of this site should have a beneficial effect on the drainage characteristics of the area.



DRAINAGE ANALYSIS

REAR YARD PONDING

LIMITS OF DRAINAGE BASIN

DIRECTION OF FLOW

LOCATION OF DITCH AND DIKE

Drainage Basin	Area (ac.)	Area (sq.ft.)	I	Composite "C"	Q cfs	Rainfall Amount(in.)	Volume (cu.ft.)
UNDEVELOPED FLOWS:							
I, II, III	1.13	49,220	5.4	0.25	1.5	2.6	2,667
DEVELOPED FLOWS:							
I	0.69	30,000	-	0.60	-	2.6	3,900*
II	0.06	2,600	5.4	0.66	0.2	2.6	372
III	0.38	16,620	5.4	0.68	1.4	2.6	2,450

* This volume to be back yard ponded.

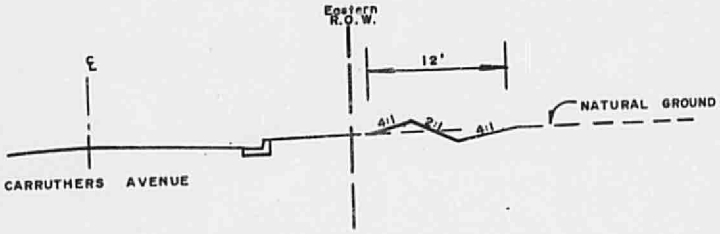
EXHIBIT I

DRAINAGE SITE PLAN
Tract "D" Luttrell Subdivision
September 1978

CCIC
Charles Carter Inglebrecht Corporation

JOB NO
DATE
SHEET OF

DITCH & DIKE



Dike shall have a maximum height increase of 1.0 foot above natural ground elevation. Ditch a maximum of 1.5 feet below natural ground.

Location of system shown on Exhibit I.

EXHIBIT II

0583