G 16/ D 13

1 PLAN

consultants, inc.
ENGINEERING - PLANNING

RECEIVED
APR 17 1979
CITY ENGINEERS

April 6, 1979

Mr. Bruno Conegliano
Hydrology Engineer
City of Albuquerque
400 Marquette Avenue, N.W.
Albuquerque, New Mexico

Dear Mr. Conegliano:

Enclosed please find the Drinage Report for the proposed Indian Acres Four-Plex Development located between Wellesley and Lafayette Drives in Albuquerque, New Mexico, on behalf of the Architect, Mr. Jim Lewis.

I hereby request your review and comments for approval of the drainage scheme proposed.

Thank you.

Respectfully,

Christopher L. Weiss

Christopher L. Weiss, P.E.
President

CLW:df

Enclosure

1100-C ALVARADO NE ■ ALBUQUERQUE, NEW MEXICO 87110 ■ (505) 268-2666

DRAINAGE STUDY

INDIAN ACRES
FOUR-PLEX DEVELOPMENT

PREPARED FOR:

SCHLEGEL AND LUCAS ARCHITECTS
1620 Central, N.E.
Albuquerque, New Mexico 87106

APRIL 1979

PREPARED BY:

CONSULTANTS, INC.
Engineering - Planning
1100 Alvarado, N.E.
Suite C
Albuquerque, New Mexico 87110

DRAINAGE REPORT AND PLAN
for a
FOUR-PLEX DEVELOPMENT

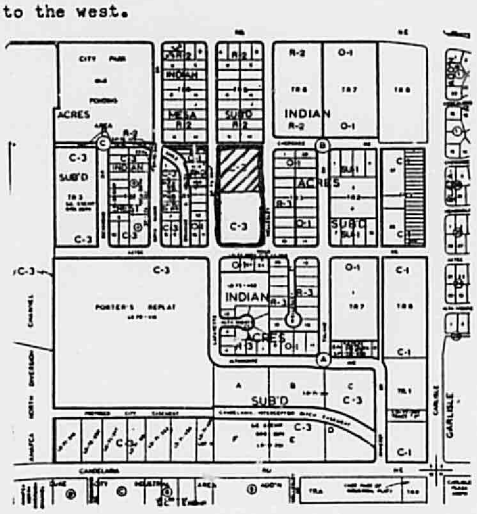
INTRODUCTION

At the request of Mr. Jim Lewis, Architect for the proposed 4-plex project, Consultants, Inc. has investigated the storm drainage for the site. This investigation follows the AMAFCA 72-2 Guidelines, which requires the retention of all additional runoff created by development.

PROPERTY DESCRIPTION

The property on which the development is proposed is located in the northeast quadrant of the City. In particular, it lies between Lafayette Drive on the west and Wellesley Drive on the east, and south on Commanche Road. Presently, the site is a raw piece of ground located between an apartment building on the north and self storage units on the south.

The 1.62 acre, which comprises the site, is relatively flat with a gentle grade to the west.



PROPOSED DEVELOPMENT

The proposed development consists of constructing ten individual four-plex units, with five facing Lafayette Drive and five facing Wellesley Drive. Each unit will be independent of its neighbor, with individual parking and landscaped areas.

Construction features which are pertinent to drainage are as follows:

a) All structures will have flat roofs with scuppers on the east and west ends of the building to drain the roof area to individual ponds.

b) Open areas in the front of each unit will be landscaped with the ponding area being an integral part of the area. The open areas in the rear of unit will be devoted primary for ponding requirements.

c) Each parking area will be sloped toward the bordering landscaped area to route the flows over pervious ground before discharging onto the adjacent street.

SOIL

The soil type for this area is Embudo gravelly fine sandy loam, 0 to 5% slopes (EmB). The interpretations of soil properties significant to engineering for ponds and reservoirs indicate that runoff is medium and the hazard of water erosions is moderate, with a permeability rate of 0.6 - 0.2"/hr. The seasonal high water table is greater than 5'. The shrink-swell potential is low.[1]

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1 Soil survey of Bernalillo County, U.S. Soil Conservation Services, Issued 1977.

TOPOGRAPHIC MAP

The topographic map used as a basis for this study was obtained from an orthophoto map supplied by the City. This map represents the topography for the site as it now exists.

EXISTING DRAINAGE

Storm runoff flows to the west, with on-site runoff flowing onto Lafayette Drive. Off-site flows from the east are intercepted by Wellesley Drive and directed north and south by the street. A 10' wide drainage way is presently shown on the north side of the site on the zone map. Howeve., the map is incorrect because the drainage right-of-way was vacated prior to this project, and the land returned to the adjoining properties.

DRAINAGE EXHIBIT

The drainage plan located in the back of this report shows the proposed direction of surface flows, locations of ponding areas, depth of ponds relative to the finished floors of the 4-plex units and calculations necessary to satisfy the drainage requirements. Final grading elevations will depend upon architectural design considerations -- spot elevations shown here are only to verify the drainage concept.

RECOMMENDATIONS

1. The minimum difference in elevations between the finished floors of the 4-plex units and the bottom of the ponds should be 1'-0". The effective depth of the ponds adjacent to the buildings should be 6" deep for a 100 year storm.

2. Additional design factors should be considered to minimize

potential settlement of the structures adjacent to the pond areas:

a) The building foundations should be designed taking into consideration the ponding area locations and the effect of additional moisture on the soil bearing capacities.

b) A qualified soils engineer should be consulted to prepare specific guidelines for soil bearing capabilities under these conditions.

3. The rear pond for each unit has been sized to receive 1/2 the roof and side yard flows with the front pond to receive the remainder of roof and yard flows. The rear ponds will have to be constructed as per the dimensions on the plan in order to obtain the required capacities. The front ponds have been sized to retain only a portion of the roof and side yard runoff with the balance of overflow draining onto each parking area. Therefore, the front ponds can be incorporated into the landscaping for each unit and the actual slope can vary as long as the volume remains as required.

4. The overflow from the front ponds and the parking areas will drain to the respective landscaped areas bordering the parking. The remainder of the required ponding will be captured in this area, with the allowed overflow volume draining to the street after passing through the landscaped area. To facilitate this concept, construct curb openings adjacent to the landscaped strip to allow flows to enter the pond. Drain off the overflow through 4" PVC pipes constructed under the sidewalk and through the curb as shown on the plan.

CONCLUSION

This drainage concept controls the increased runoff volume generated by development through the use of these ponding areas for each unit. The

rear pond will be a "single use" pond with no overflow. The front yard pond and the parking area pond will serve both as ponding areas and landscaped areas. The front ponds will store the balance of the required volume of runoff, and the remaining runoff to leave the site will equal the undeveloped volume, thus meeting the drainage criteria established by the City Engineer for this area.

(Reading

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
David Rusk

April 23, 1979

G16-D13

Mr. Christopher L. Weiss, P.E.
President
Consultants, Inc.
1100-C Alvarado N.E.
Albuquerque, N.M. 87110

Subject: Indian Acres Four-Plex Development

Dear Mr. Weiss:

The drainage report for the captioned project is approved in concept. The construction plan to be submitted to the Building and Inspection Department for building permit must include large scale (1"=10 feet) detailed site grading plans to show how the drainage conept will be inplemented, to insure faithful execution by the builder and verification by the drainage inspector.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/fs

cc - Dick Heller, City Engineer
Rich Leonard, AMAFCA
Drainage File

AN EQUAL OPPORTUNITY EMPLOYER

RE: Indian Acres 4-Plex Project

June 21, 1979

Mr. Richard Heller, City Engineer
City of Albuquerque
Engineering Division
400 Marquette Avenue N. W.
Albuquerque, New Mexico 87102

Dear Mr. Heller:

Upon completion of the above named project, we will inspect said project and certify that it has been constructed in a manner consistent with the approved Drainage Report.

/s/ Engineering Consultant

CONSULTANTS, INC.
Engineering - Planning

By: Christopher L Weiss
(Christopher L. Weiss, P.E.)

Title: Pres.

Date: 6-21-79

I hereby release this plan for Building Permit:

Signed: for G. N. Hennard 6/22/79
(Mr. Richard Heller)

Title: Acting City Engineer

Date: _____

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
David Rusk

April 23, 1979

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President
Consultants, Inc.
1100-C Alvarado N.E.
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