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

May 25, 1982

Mr. Tom Isaacson
Isaacson & Arfman
2727 San Pedro Drive NE
Albuquerque, NM 87110

RE: ALAMOSA ADDITION DRAINAGE REPORT

Dear Tom:

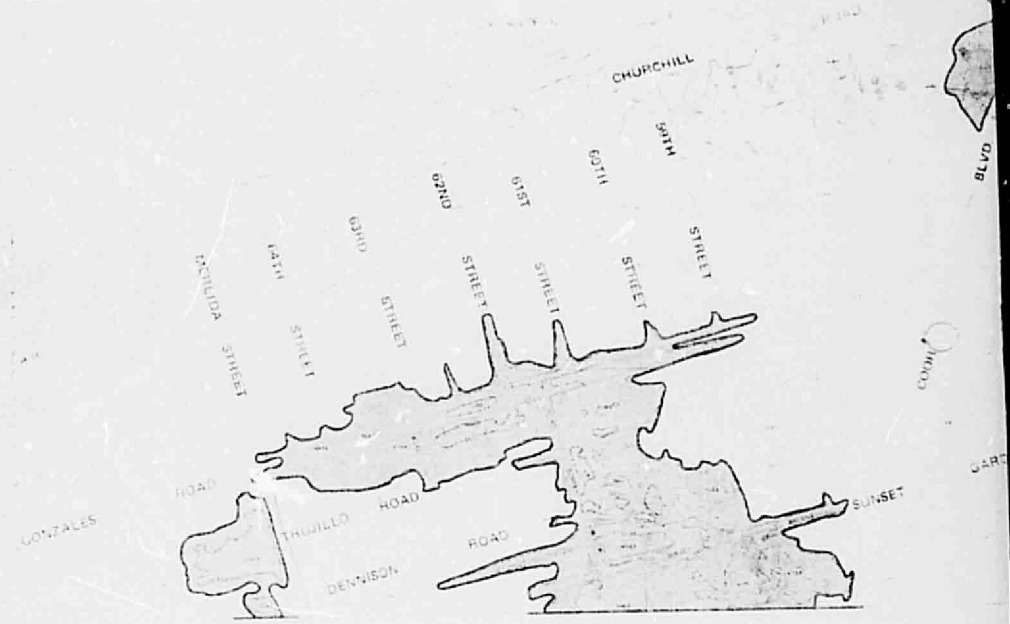
The referenced report is approved.

Very truly yours,

Brian G. Burnett

Brian G. Burnett
Civil Engineer/Hydrology

BGB/br



REFERENCE MARK	ELEVATION (FT. NGVD)	DESCRIPTION OF LOCATION
RM 48	5069.69	[illegible]
		[illegible]
		[illegible]
RM 49	5070.44	[illegible]
		[illegible]

REFERENCE MARK	ELEVATION (FT. NGVD)	DESCRIPT
RM 48	5069.69	[illegible]
RM 49	5070.44	[illegible]

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

DRAINAGE REPORT INFORMATION SHEET

PROJECT TITLE: Replat of Lots 6-10, Block A and Lots 1-5, Block B, [illegible] Alamosa Addition

ZONE ATLAS PAGE NO.: K-11-Z CITY ADDRESS: _____

LEGAL ADDRESS: as above

ENGINEERING FIRM: Isaacson & Arfman, P.A. CONTACT: Tom Isaacson

ADDRESS: 2727 San Pedro N.E., Suite 114 PHONE: 883-2800

OWNER: Pat Milligan Construction CONTACT: Pat Milligan

ADDRESS: 2730 Coors Blvd. N.W. PHONE: 831-0900

ARCHITECT/SURVEYOR: Frank Benavidez CONTACT: Frank Benavidez

ADDRESS: 3200 Richmond Drive N.E. PHONE: 884-1623

DATE SUBMITTED: March 29, 1982

BY: T. Isaacson

16.82

ISAACSON
& ARFMAN, P.A.
CONSULTING ENGINEERING ASSOCIATES

7 SAN PEDRO N.E. SUITE 11-A
ALBUQUERQUE, NEW MEXICO 87110
TELEPHONE – 883-2800

March 26, 1982

Mr. Chuck Easterling
City Drainage Engineer
City of Albuquerque
P. O. Box 1293
Albuquerque, New Mexico 87103

Re: Alamosa Addition

Dear Mr. Easterling:

We transmit one copy of a drainage report prepared for the proposed replat of Lots 6-10, Block A and Lots 1-5, Block B of the Alamosa Addition. Also transmitted is the "Drainage Report Information Sheet".

Your review of this report is requested.

Very truly yours,

ISAACSON & ARFMAN, P.A.

Thomas O. Isaacson

Thomas O. Isaacson
President

TOI/cvi

DRAINAGE REPORT

Replat of Lots 6-10, Block A
and Lots 1-5, Block B,
of the Alamosa Addition

K 11-017

DRAINAGE REPORT

for

Replat of Lots 6-10, Block A
and Lots 1-5, Block B of the
ALAMOSA ADDITION

Prepared for:
Pat Milligan Construction
2730 Coors Blvd. N.W.
Albuquerque, New Mexico 87120

Prepared by:
Isaacson & Arfman, P.A.
2727 San Pedro N.E., Suite 114
Albuquerque, New Mexico 87110

Introduction

At the request of Pat Milligan Construction, owner of the property, Isaacson & Arfman has prepared a drainage report for the site. The site consists of 10 R-1 residential lots. The owner has requested a zone change from R-1 to R-T and proposes the establishment of 20 townhouse lots (Zoning Case Z-81-103). This zone change request has been approved subject to filing a summary replat. This report has been prepared to fulfill the drainage study requirements necessary for acceptance of a summary replat of the property.

Location

The site is located in the southwest quadrant of the City. It lies south of Gonzales Road, east of Bataan Road, and north of Dennison Road. Trujillo Road runs east-west through the middle of the site. See Figure 1 for location purposes.

Existing Conditions

The site consists of a portion of a closed topographic depression and contains an area of 1.73 acres. The drainage characteristics of the site have been drastically altered over the last year by the construction of subdivision improvements on the adjacent property immediately to the west, Sunset Gardens Townhomes. In order to evaluate the drainage impact of the development of this property it is necessary to consider the offsite drainage potential both before and after the construction of Sunset Gardens. Prior to the construction of Sunset Gardens improvements the site had the following 100 year flow rate and inflow volume from offsite tributary drainage areas:

RUNOFF RATE

Area = 48.3 acres
I = 5.4 "/hr., C = 0.40
Q = 104 cfs

RUNOFF VOLUME

Area = 48.3 x 43,560 = 2,103,948 Sq. Ft.
Rainfall = 2.2"
Volume = 2,103,948 x 2.2 ÷ 12 x 0.40
= 154,290 cubic feet

The construction of Sunset Gardens grading improvements involved substantially raising the street and pad grade elevations to cause the offsite tributary drainage to be intercepted by Bataan Drive and forced to flow southerly in this street out of the tributary drainage basin. Figure 2 shows the general arrangement of this subdivision and new drainage flow patterns. After grading construction the 100 year flow rate and inflow runoff rates at the site are determined as follows:

RUNOFF RATE

Area A (see Figure 3 for enlarged details)
Area = 0.67 Ac
I = 5.4 "/hr,
Composite C = 0.74
Q = 2.7 cfs

Area B
Area = 0.28 ac
I = 5.4 "/hr., C = 0.40
Q = 0.6 cfs

RUNOFF VOLUME

Area A
Area = 0.67 x 43,560 = 29,185 sq. ft.
Rainfall = 2.2", C = 0.74
Volume = 3959 cubic feet

Area B
Area = 0.28 x 43,560 - 12,197 sq. ft.
Rainfall = 2.2", C = 0.40
Volume = 894 cubic feet

The effect of Sunset Gardens Townhomes on the property is to reduce the tributary runoff rate from 104 cfs to 3.1 cfs and the runoff volume from 154,290 cubic feet to 4853 cubic feet.

These runoff estimates will be further reduced in the future with development of lots in offsite drainage area B. Typical residential lots in this part of town are developed with concrete block walls in the back yard. Construction of concrete block walls in this area will completely retain

the runoff for area B within that area.

Developed Drainage

The owner intends to construct two story townhouse units on the property as shown schematically on Figure 4. Since the entire site is topographically depressed it will be necessary to fill the site to provide positive drainage from the site. Trujillo Road, which runs through the site, is at higher elevations on both the east and west property lines of the site. This street must be raised approximately 1½ feet to provide a positive slope from west to east across the site. The pads for the units must be filled so that the finished grades are about 12 inches above the curb grades which will require about 2½ feet of fill. Precipitation falling on the front yards and the buildings will be allowed to drain to the street. Rainfall in the backyard will be ponded in backyard ponds.

Runoff generated from on-site development is calculated as follows:

RUNOFF RATE

Area = 1.04 ac.
I = 5.4"/hr.
Composite C = 0.80
Q = 4.5 cfs

RUNOFF VOLUME

Area = 1.04 x 43,560 = 45,302 sq. ft.
Rainfall = 2.2", C = 0.80
Volume = 6644 cubic feet

Runoff leaving the site on Trujillo Road will include offsite from Sunset Gardens Townhomes. Filling the site will prevent runoff from offsite area B from entering the site. Therefore the runoff leaving the site will be:

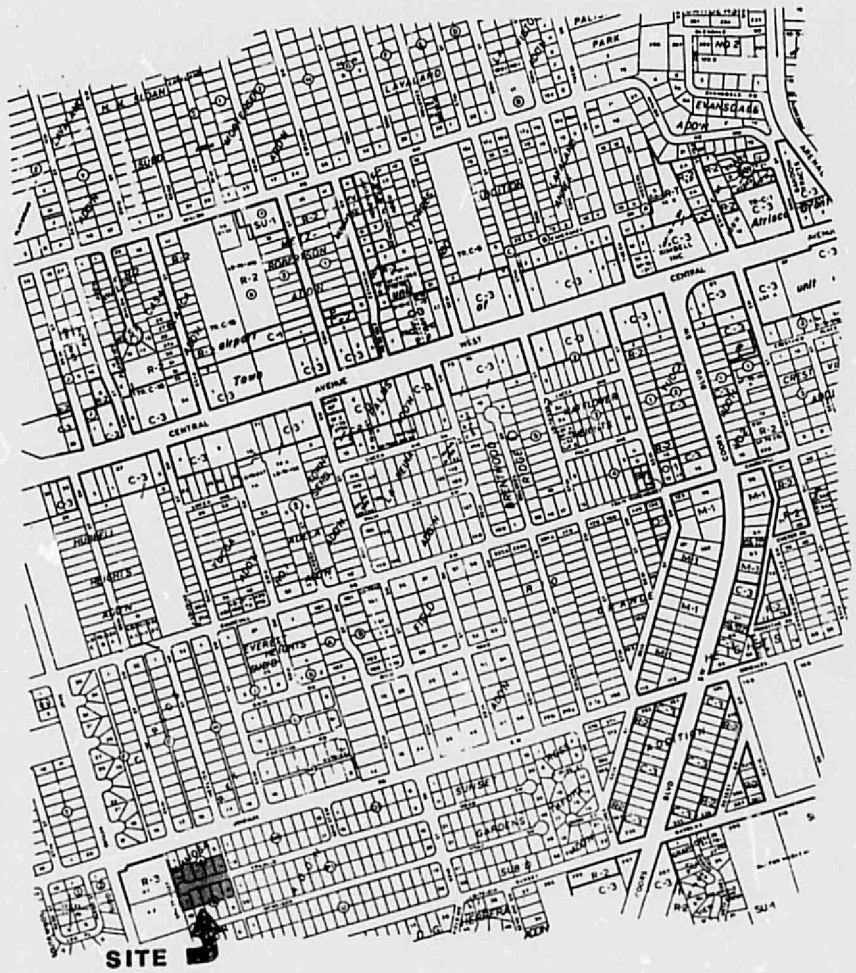
Rate = 2.7 + 4.5 = 7.2 cfs
Volume = 3959 + 6644 = 10,603 cubic feet

Construction of Sunset Gardens has reduces the runoff potential from the property. The depression's natural storage volume is calculated from topographic mapping to be 143,230 cubic feet. The 100 year runoff volume is 154,290 cubic feet, therefore overflow would occur in the amount of 154,290 - 143,230 or 11,060 cubic feet. Consequently filling the site will not increase the runoff

potential from the property as the developed runoff volume is 10,603 cubic feet.

Conclusion

The site should be filled and graded to create positive street drainage to the east on Trujillo Road. The townhouse pads should also be constructed to allow the front yards along with roof drainage to flow to the street; backyard drainage should be allowed to pond. Construction of these improvements will not increase the 100 year runoff flow from the site.

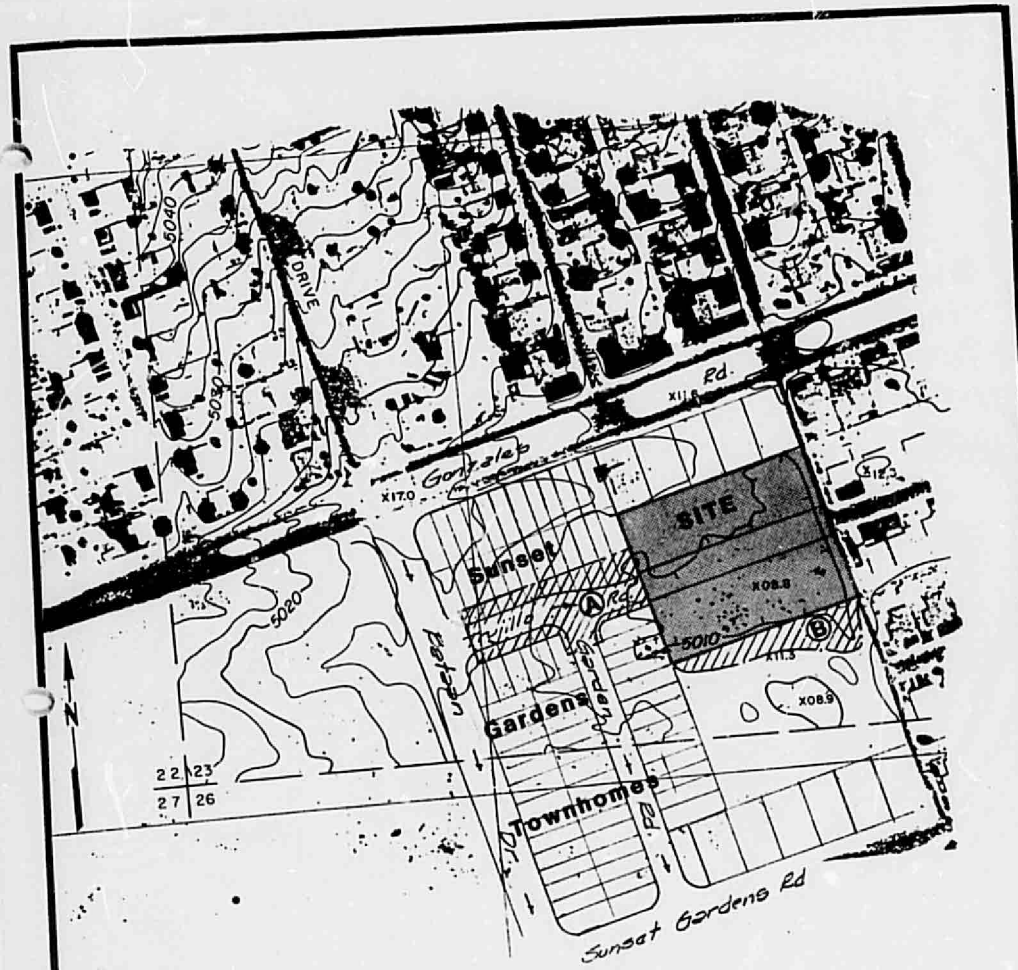


LOCATION MAP

K-11-Z

Isaacson & Arfman, P.A.
Consulting Engineering Associates

Figure 1

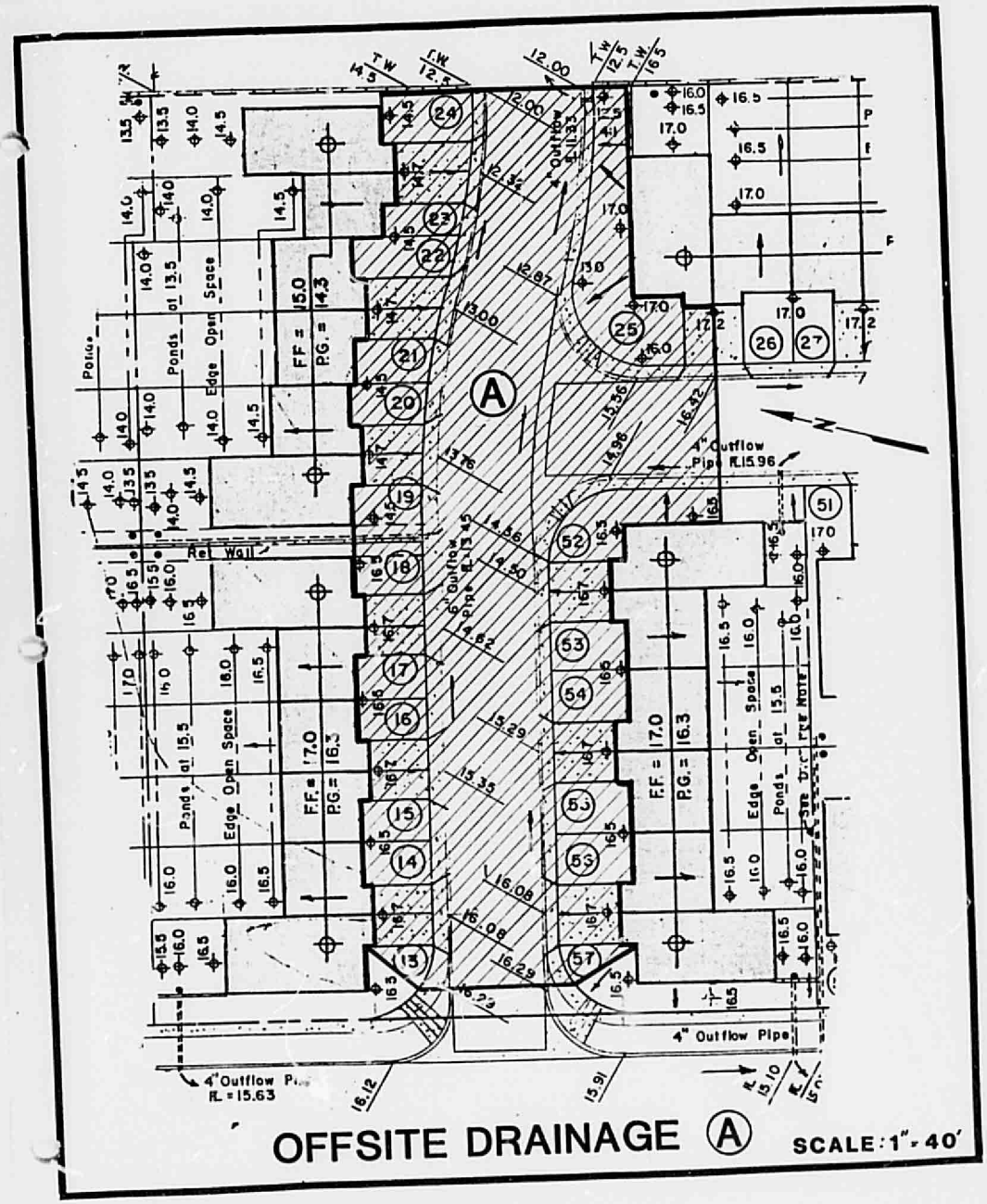


OFFSITE DRAINAGE

SCALE: 1" = 200'

Isaacson & Arfman, P.A.
Consulting Engineering Associates

Figure 2



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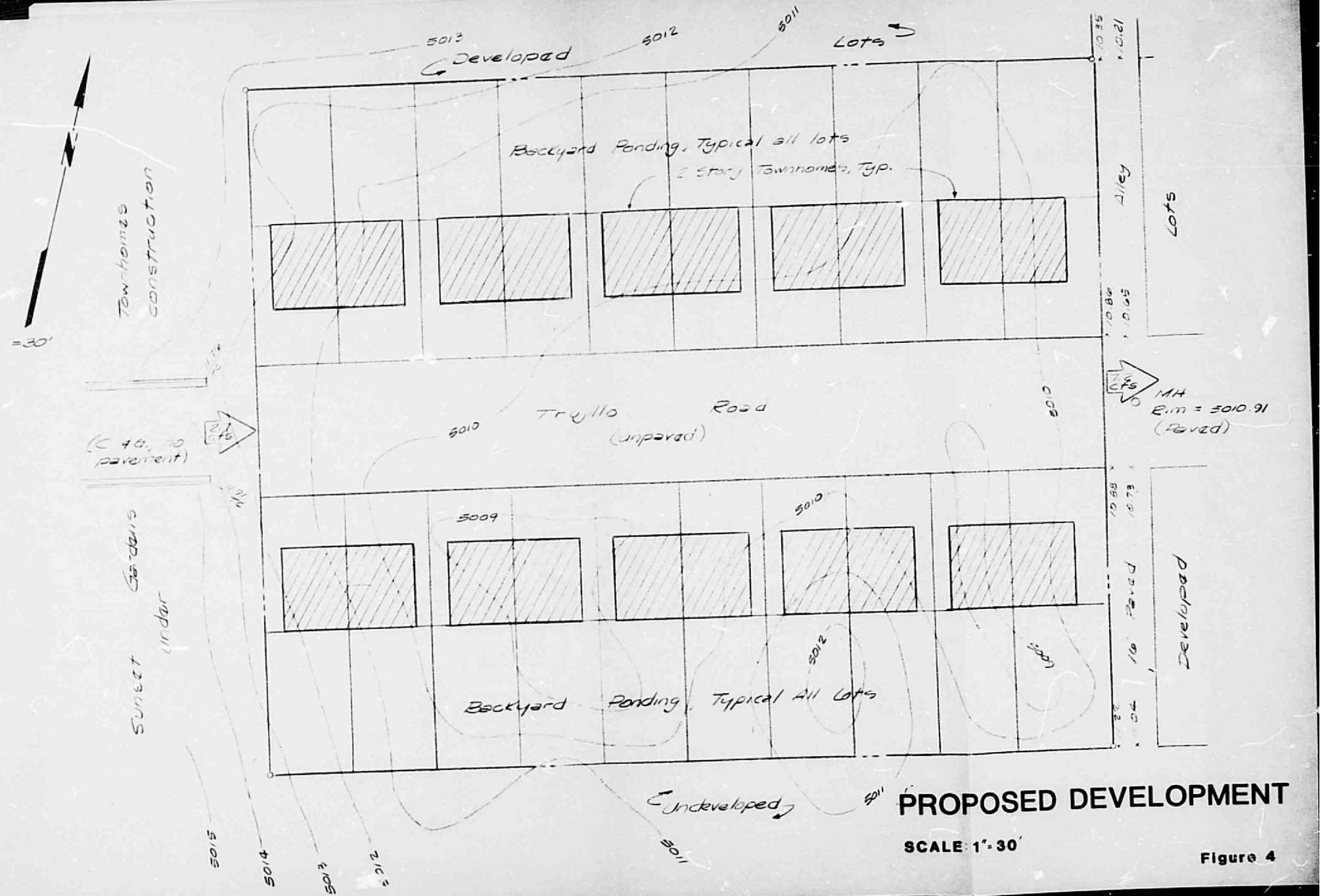
Consulting Engineering Associates

Figure 3



PROPOSED DEVELOPMENT

SCALE: 1" = 30'

Figure 4