CITY OF
Albuquerque

Martin J. Chávez, Mayor

October 7, 1996

Tom Isaacson, P.E.
Isaacson & Arfman
128 Monroe NE
Albuquerque, New Mexico 87110

**RE: Engineer's Certification for Pinon Creek Village Subdivision (L23/D3A)
Submitted for Release of Financial Guarantees, Engineer's Stamp Dated 9/10/96.**

Dear Mr. Isaacson:

Based on the information provided in the submittal of September 10, 1996, the above referenced plan is adequate to satisfy the requirement for Subdivision Certification for release of financial guarantees per the Infrastructure List.

If you should have any questions, or if I may be of further assistance to you, please call me.

Sincerely,

Susan Calongne

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: Terri Martin
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Pinon Creek Village Subdivision ZONE ATLAS/DRNG. FILE #: L-23/D34

DRB #: 94-284 EPC #: _____ WORK ORDER #: 5113.80

LEGAL DESCRIPTION: Pinon Creek Village Subdivision

CITY ADDRESS: —

ENGINEERING FIRM: Isaacson & Arfman CONTACT: Tom Isaacson

ADDRESS: 128 Monroe NE 87110 PHONE: 268-8828

OWNER: Downum's UBC CONTACT: Fred Downum

ADDRESS: 1405 Snowdrop Pl. NE 87112 PHONE: 275-8504

ARCHITECT: — CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Aldrich Land Surveying CONTACT: Tim Aldrich

ADDRESS: 4109 Montgomery Blvd NE PHONE: 884-1990

CONTRACTOR: Hydrosystems CONTACT: Lee Smith

ADDRESS: 12100 Signal Ave NE PHONE: 344-3840

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAINAGE PLAN

____ GRADING PLAN

____ EROSION CONTROL PLAN

X ENGINEER'S CERTIFICATION

____ OTHER

PRE-DESIGN MEETING:

____ YES

____ NO

____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL

____ PRELIMINARY PLAT APPROVAL

____ S. DEV. PLAN FOR SUB'D. APPROVAL

____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL

____ SECTOR PLAN APPROVAL

____ FINAL PLAT APPROVAL

____ FOUNDATION PERMIT APPROVAL

____ BUILDING PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY APPROVAL

____ GRADING PERMIT APPROVAL

____ PAVING PERMIT APPROVAL

____ S.A.D. DRAINAGE REPORT

____ DRAINAGE REQUIREMENTS

X OTHER ~~For~~ Financial (SPECIFY)
Guarantee Release

DATE SUBMITTED: 9/10/96

BY: Thomas C. Isaacson

RECEIVED
SEP 10 1996
HYDROLOGY DIVISION

Isaacson &
Arfman, P.A.

Consulting Engineering
Associates

# Letter of Transmittal

To Lisa Ann Manwill
Engineering Associate/ Hydrology Div
City of Albuquerque.

Date 9/10/96

Job No. _____

Attn: _____

Reference Pima Creek Village Subdivision, L23/D3A

Gentlemen:

We transmit to you 1 copy(ies) of the following

- ☐ _____ Plats
- ☐ _____ Plans
- ☐ Specifications
- ☐ _____ Report
- ☒ Drainage Information Sheet
- ☒ Engineer's Grading & Drainage Plan Certification
- ☐ Shop Drawings
- ☐ Submittals
- ☐ Material Specifications
- ☐ Copy of Letter

This information is transmitted:

- ☐ As per your request
- ☒ For your review & approval
- ☐ For your information
- ☐ For your attention
- ☐ For your signature
- ☒ for Financial Guarantee Release
- ☐ _____
- ☐ For your files
- ☐ For your use
- ☐ Please review & return
- ☐ For return to your files
- ☐ Please advise

Remarks: _____

RECEIVED
SEP 10 1996
HYDROLOGY

By: Jon Isaacson

Copies To _____

128 Monroe, NE • Albuquerque, NM 87108 • (505) 268-8828

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

October 16, 1995

Tom Isaacson
Isaacson & Arfman
128 Monroe NE
Albuquerque, NM 97108

***RE: PINON VILLAGE SUBDIVISION (L23-D3A) GRADING PLAN FOR GRADING PERMIT APPROVAL. ENGINEER'S STAMP DATED 8-10-95.***

Dear Mr. Isaacson:

Based on the information provided on your October 10, 1995 resubmittal, the above referenced project is approved for Grading Permit. This approval supersedes the February 23, 1995 approval letter.

A separate permit for the retaining wall from code administration will be required.

Also, a Topsoil Disturbance Permit should be obtained from the Environmental Health Department prior to commencing with the actual grading of the site.

If I can be of further assistance, please feel free to contact me at 768-3622.

Sincerely,

Lisa Ann Manwill
Engineering Assoc./Hyd.

c: Andrew Garcia
File

# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103


February 23, 1995

Tom Isaacson
Isaacson & Arfman
128 Monroe NE
Albuquerque, NM 87108

RE: PINON CREEK VILLAGE SUBDIVISION (L-23/D3A) ENGINEER'S STAMP DATED 2/21/95

Dear Mr. Isaacson:

The revised grading plan (sheet 3), submitted to this office on 2/21/95, has been reviewed and is approved for Grading Permit. Please note that this approval supersedes my 1/4/95 grading approval letter.

A Topsoil Disturbance Permit should be obtained from Environmental Health prior to commencing with the actual grading of the site.

If I can be of further assistance, feel free to contact me at 768-3622.

Cordially,

Scott Davis
PWD, Hydrology Division

c: Larry Caudill
Andrew Garcia
File

# DRAINAGE INFORMATION SHEET

PROJECT TITLE: Pinon Creek Village Subd. ZONE ATLAS/DRNG. FILE #: L-23/D34

DRB #: 94-284 EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Lot 74, Pinon Creek

CITY ADDRESS: —

ENGINEERING FIRM: Isaacson & Arfman PA CONTACT: Tom Isaacson

ADDRESS: 128 Monroe NE 87108 PHONE: 268-8828

OWNER: Downum's UBC CONTACT: Fred Downum

ADDRESS: 1405 Snowdrop Pl NE 87112 PHONE: 275-8504

ARCHITECT: — CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Forstbauer Surveying Co CONTACT: Ron Forstbauer

ADDRESS: 1100 Alvarado Dr NE PHONE: 268-2112

CONTRACTOR: Hydrosystems CONTACT: Lee Smith

ADDRESS: 12100 Signal Ave NE PHONE: 344-3840

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAINAGE PLAN

X GRADING PLAN

____ EROSION CONTROL PLAN

____ ENGINEER'S CERTIFICATION

____ OTHER

PRE-DESIGN MEETING:

____ YES

____ NO

____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL

____ PRELIMINARY PLAT APPROVAL

____ S. DEV. PLAN FOR SUB'D. APPROVAL

____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL

____ SECTOR PLAN APPROVAL

____ FINAL PLAT APPROVAL

____ FOUNDATION PERMIT APPROVAL

____ BUILDING PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY APPROVAL

X GRADING PERMIT APPROVAL

____ PAVING PERMIT APPROVAL

____ S.A.D. DRAINAGE REPORT

____ DRAINAGE REQUIREMENTS

____ OTHER _____ (SPECIFY)

DATE SUBMITTED: 10/10/95

BY: Kenneth D. Isaacson

RECEIVED
OCT 10 1995
HYDROLOGY

# *ISAACSON & ARFMAN, P.A.*

***Consulting Engineering Associates***

*Thomas O. Isaacson, PE & LS • Fred C. Arfman, PE*
*Scott M. McGee, PE*


October 10, 1995

Hydrology Division
Public Works Department
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

**RE: Pinon Creek Village Subdivision**
**(L-23/D3A)**

Gentlemen: bad assumption!

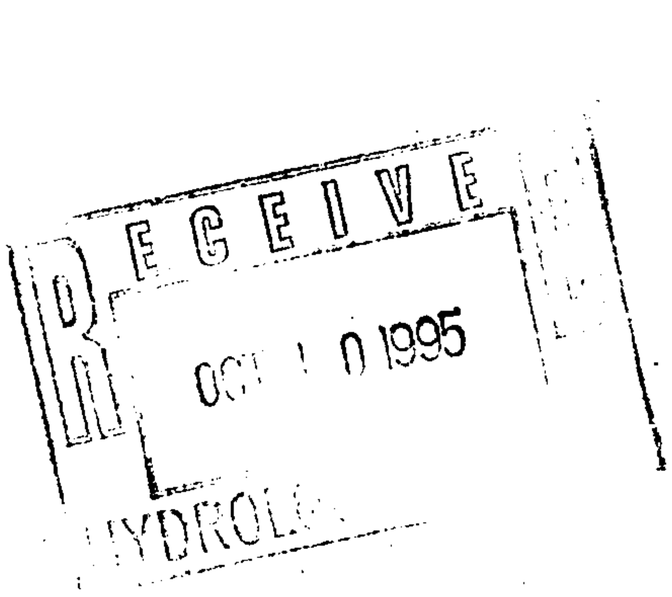
The grading plan for this subdivision was approved by Scott Davis on February 23, 1995. Since that time the property has sold and the new owner, Fred Downum, wants to use a soil anchored retaining wall exclusively on the project. Consequently, the grading plan has been revised to eliminate the reinforced masonry retaining wall previously shown for the private drainage easement. No other changes to the previously approved plan have been make. Your review and approval of this revised plan is requested.

Very truly yours,

Thomas O. Isaacson

TOI/jsi

cc: Fred Downum





*128 Monroe St. NE • Albuquerque, NM 87108 • (505) 268-8828 • FAX (505) 268-2632*

# DRAINAGE INFORMATION SHEET

PROJECT TITLE: Pinon Creek Village Subd. ZONE ATLAS/DRNG. FILE #: L-23/D3A

DRB #: 94-284 EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Lot 74, Pinon Creek

CITY ADDRESS: —

ENGINEERING FIRM: Isaacson & Arfman PA CONTACT: Tom Isaacson

ADDRESS: 128 Monroe NE PHONE: 268-8828

OWNER: Pinon Creek Property Co CONTACT: Jack Stahl

ADDRESS: 1911 Wyoming Blvd NE PHONE: 292-6635

ARCHITECT: — CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Forstbayer Surveying Co CONTACT: Ron Forstbayer

ADDRESS: 1100 Alvarado Dr NE PHONE: 268-2112

CONTRACTOR: — CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT
___ DRAINAGE PLAN
X CONCEPTUAL GRADING & DRAINAGE PLAN
X GRADING PLAN
___ EROSION CONTROL PLAN
___ ENGINEER'S CERTIFICATION
___ OTHER

PRE-DESIGN MEETING:

X YES
___ NO
___ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
___ S. DEV. PLAN FOR SUB'D. APPROVAL
___ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
___ SECTOR PLAN APPROVAL
___ FINAL PLAT APPROVAL
___ FOUNDATION PERMIT APPROVAL
___ BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
X GRADING PERMIT APPROVAL
___ PAVING PERMIT APPROVAL
___ S.A.D. DRAINAGE REPORT
___ DRAINAGE REQUIREMENTS
___ OTHER _____ (SPECIFY)

DATE SUBMITTED: _____

BY: Ronald Isaacson

RECEIVED
FEB 21 1995
HYDROLOGY DIVISION

Isaacson &
Arfman, P.A.

Consulting Engineering
Associates

# Letter of Transmittal

To Scott Davis
Hydrology / PWD

Date 2/21/95

Job No. _____

Attn: _____

Reference Pinon Creek Village Subdivision

Gentlemen:

We transmit to you 1 copy(ies) of the following

- ☐ _____ Plats
- ☐ _____ Plans
- ☐ Specifications
- ☐ _____ Report
- ☐ Shop Drawings
- ☐ Submittals
- ☐ Material Specifications
- ☐ Copy of Letter
- ☒ Drainage Information Sheet
- ☒ Revised Grading Plan

This information is transmitted:

- ☐ As per your request
- ☒ For your review & approval
- ☐ For your information
- ☐ For your attention
- ☐ For your signature
- ☐ _____
- ☐ _____
- ☐ For your files
- ☐ For your use
- ☐ Please review & return
- ☐ For return to your files
- ☐ Please advise

RECEIVED
FEB 21 1995
HYDROLOGY DIVISION

Remarks: Sheet 3 revised to show retaining wall adjacent to drainage channel on Lots 1, 2 and 3 per insistence of R.J Herbert, City Parks. No other changes made to previous plan you approved 1/4/95.

By: Jon Isaacson

Copies To _____

128 Monroe. NE • Albuquerque, NM 87108 • (505) 268-8828

DRB Case No: 94-284
DRC Project No.:
Date Submitted: 5/19/94

# FIGURE 12

## INFRASTRUCTURE LIST

## EXHIBIT "A"
## TO SUBDIVISION IMPROVEMENTS AGREEMENT
## DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LIST

## PINON CREEK VILLAGE

Following is a summary of Public/Private Infrastructure required to be constructed or financially guaranteed to be constructed for the above development. This summary is not necessarily a complete listing. During the design process, if the City determines that appurtenant items have not been included in the summary, those items will be included in the listing and related financial guarantee, if the items normally are Subdivider responsibility. In addition, any unforeseen items which arise during construction which are necessary to complete the project and which normally are the Subdivider's responsibility are the responsibility of the Subdivider and will be included in the financial guarantee provided by the City.

| SIZE | IMPROVEMENT | LOCATION | FROM | TO |
|---|---|---|---|---|
| **PUBLIC IMPROVEMENTS** | | | | |
| TO 6" 8" 6" 8" | Water | Pinon Creek Road | Four Hills Road | Pinon Creek Pl. |
| | Water TO one (1) P.R.V. | Pinon Creek Pl. (Pressure Reduction Valve) | Pinon Creek Road | Cul-de-Sac |
| 8" | Sanitary Sewer | Four Hills Road | Tijeras Arroyo | Pinon Creek Road |
| 8" | " " | Pinon Creek Road | Four Hills Road | Pinon Creek Pl. |
| 8" | " " | Pinon Creek Pl. | Pinon Creek Road | Cul-de-Sac |
| - | Storm Drain Inlet with Connector Pipe | Pinon Creek Road | - | - |
| **PRIVATE IMPROVEMENTS** | | | | |
| Mountable | Curb & Gutter | Pinon Creek Pl. | Pinon Creek Road | Cul-de-Sac |
| 4' | *Sidewalk (North & West Sides Only) | " | " | " |
| 26'F/F | Residential Paving | " | " | " |

*Sidewalk to be deferred

## MISCELLANEOUS

Residential street lighting per DPM

Grading: Certification per DPM (prior to release of financial guarantees). To include private retaining and perimeter walls as required on the approved grading plan ([redacted]).

All waterlines to include fire hydrants, valves, & appurtenances per DPM

Street trees per ordinance (not to be financial guaranteed)

Prepared by: Thomas O. Isaacson 5/19/94
Thomas O. Isaacson
Isaacson & Arfman, P.A.

Development Review Board Member Approval

Transportation Development 9-27-94
Date

Utility Development Robert W. Lara 9-27-94
Date

Parks & ~~Recreation~~ General Services Carol Schreider Dumont 9-27-94
Date

City Engineer/AMAFCA 9-27-94
Date

DRB Chairman Jack Lovell 9-27-94
Date

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

January 4, 1995

Tom Isaacson
Isaacson & Arfman
128 Monroe NE
Albuquerque, NM 87108

RE: PINON CREEK VILLAGE SUBDIVISION (L-23/D3A) ENGINEER'S STAMP DATED 12/23/94

Dear Mr. Isaacson:

Based upon the information contained in your 12/30/94 submittal, the referenced project is approved for Grading Permit.

Please keep in mind that information must be added to the plat identifying maintenance responsibility of the concrete rundown to be located on lots 1-4.

If I can be of further assistance, feel free to contact me at 768-3622.

Sincerely,

Scott Davis
PWD, Hydrology Division

c: Andrew Garcia
File

**ISAACSON & ARFMAN, P.A.**

*Consulting Engineering Associates*

*Thomas O. Isaacson, PE & LS • Fred C. Arfman, PE*
*Scott M. McGee, PE*

L-23/D-3A

January 27, 1995

Mr. Jack Cloud, Chairman
Development Review Board
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

**RE: Pinon Creek Subdivision**
**S-94-40**
**DRB-94-284**
**SV-94-49**

Dear Mr. Cloud:

We request a revision to the approved Infrastructure List for the referenced project. The revision changes the waterline size from 8" diameter to 6" diameter. Bob Kane has verbally approved this change. Enclosed are six copies of the Infrastructure List with the changes highlighted.

We also request revisions to the approved preliminary grading plan. The revised grading plan eliminates the proposed retaining wall adjacent to the private drainage channel and incorporates a raised wall on the downstream side of the channel. The raised wall provides the same channel freeboard as proposed in the preliminary grading plan. Scott Davis, Hydrology Division, has given verbal approval of the design. Enclosed are six copies of the revised grading plan.

Very truly yours,

Thomas O. Isaacson

TOI/rtl

Enclosures

cc: Scott Davis, Hydrology Division

*128 Monroe St. NE • Albuquerque, NM 87108 • (505) 268-8828 • FAX (505) 268-2632*

Isaacson &
Arfman, P.A.

Consulting Engineering
Associates

# Letter of Transmittal

To City Hydrology Date 12/23/94

Job No.

Attn:

Reference Pinon Creek Village Subdivision

Gentlemen:

We transmit to you 1 copy(ies) of the following

- ☐ ____ Plats
- ☐ ____ Plans
- ☐ Specifications
- ☐ ____ Report
- ☒ Drainage Information Sheet
- ☒ Grading Plan, Sheets 3-5
- ☐ Shop Drawings
- ☐ Submittals
- ☐ Material Specifications
- ☐ Copy of Letter

This information is transmitted:

- ☐ As per your request
- ☒ For your review & approval
- ☐ For your information
- ☐ For your attention
- ☐ For your signature
- ☐ For your files
- ☐ For your use
- ☐ Please review & return
- ☐ For return to your files
- ☐ Please advise

Remarks:



By: Jon Isaacson

Copies To

128 Monroe, NE • Albuquerque, NM 87108 • (505) 268-8828

# STREET & CATCH BASIN HYDRAULICS
# PINON CREEK ROAD
# ANALYSIS POINT NO. 2

## Q10 ANALYSIS:

Street Hydraulics

Street: Pinon Creek Rd @ Inlets

Q10 ~~100 yr. Q~~: 14-15 1/2 Street Flow: ~~.7~~ 1/2

Street slope: 6%

Max. flow depth: .32' (Plate 22.3 D-1)

Catch Basin Hydraulics

Upstream inlet(s): 1-Sing6 A & 1-B

DPM grating capacity plate: 22.3 D-5 & D-7

Intercepted Q: ~~5+6 = 11~~ 5+5+3=13

Remaining surface flow: ~~3~~ 2

Max. flow depth: .26'

## Q100 Analysis:

Street Hydraulics

Street: Pinon Creek Road, Analysis Point 2 12½

100-yr. Q: ~~25.24~~ cfs 1/2 Street Flow: ~~12~~ cfs

Street slope: 6%

Max. flow depth: 0.37' (Plate 22.3 D-1)

Catch Basin Hydraulics

SEP 22 1994

Upstream inlet(s): 1-Sing6 A & 1-B

DPM grating capacity plate: 22.3 D-5 & 22.3 D-7

Intercepted Q: ~~7+10 = 17 cfs~~ 7+7+4=18

Remaining surface flow: 7 cfs (Total Street)

Max. flow depth: .26'

ATTACHMENT 'C'

wn
ceptual
hat
designed
ed
slit
d.
diagrammatic
grading.

# ATTACHMENT A

## LEGEND

Retaining Wall

(1) Drainage Analysis Point Location & Number

Drainage Area Boundary For Analysis Points

2:1 Earth Slope

SEP 22 1994

# Preliminary Grading & Drainage

# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103


July 18, 1994

Mr. Tom Isaacson
Isaacson & Arfman
128 Monroe NE
Albuquerque, NM 87108

RE: PINON CREEK VILLAGE SUBDIVISION (L-23/D3A) ENGINEER'S STAMP DATED 6/10/94

Dear Mr. Isaacson:

Based upon the submittal received by this office on 6/10/94, I have the following concerns which will need to be addressed prior to authorizing Preliminary Plat approval. My concerns include:

1. You have proposed that storm flows falling within a number of backyards be allowed to discharge onto adjacent properties, which would be a continuation of the historical flow path. This can be allowed if certain conditions are met:

   a) All roof drains must drain to the front.

   b) A demarcation line should be identified on the drainage/grading plan behind which no grading will occur. It should be made clear that all areas draining to adjacent properties will be left in their natural state. A covenant will be needed to ensure that the property owner, its heirs, successors and assigns will be responsible for maintaining this condition.

2. As I discussed with you in our 7/15/94 telephone conversation, an earlier submittal, 1983, on this same site seems to indicate that the storm drain in Pinon Creek Road was constructed by the developer to serve as an outfall line for the drainage pond along that roadway. That report defines the pond as a detention facility with a pipe outfall which was at that time plugged.

   Since it is difficult to decipher from our limited records what actually transpired at that time, it appears that it will be necessary to take a closer look at how that system actually functions. If the pond actually acts as a retention facility, does it have sufficient capacity? Is the emergency spillway which I assume outfalls onto Pinon Creek Road adequate? How would overland flow from the pond affect the capacity of the Pinon Creek Road storm drain in the 10 and 100 year storm event?

I believe that the drainage management plan you have proposed for this site appears workable as long as your analysis shows that there is indeed sufficient capacity in the existing infrastructure.

If I can be of further assistance, feel free to contact me at 768-3622.

Cordially,

Scott Davis
PWD, Hydrology Division

c: Andrew Garcia
File

(wp+8651)

# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103


September 26, 1994

Tom Isaacson
Isaacson & Arfman
128 Monroe NE
Albuquerque, NM 87108

RE: PINON CREEK VILLAGE SUBDIVISION (L-23/D3A) ENGINEER'S STAMP DATED 9/21/94

Dear Mr. Isaacson:

Based upon your 9/22/94 resubmittal, the referenced project is approved for Preliminary Plat. Please make note of the following:

1. A note should be included on the plat making it clear that it is the individual lot owners or the Homeowner Association's responsibility to maintain the onsite concrete rundown or storm drain.

2. The grading certification note, located on the Infrastructure List, should also include the certification of the concrete rundown and proposed retaining walls.

If I can be of further assistance, feel free to contact me at 768-3622.

Sincerely,

Scott Davis
PWD, Hydrology Division

c: Andrew Garcia
File

(wp+8651)

# DRAINAGE INFORMATION SHEET

PROJECT TITLE: Pinon Creek Village Subd. ZONE ATLAS/DRNG. FILE #: L-23 / D3A

DRB #: 94-284 EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Pinon Creek Village, Lot 74 of Pinon Creek

CITY ADDRESS: —

ENGINEERING FIRM: Isaacson & Arfman PA CONTACT: Tom Isaacson

ADDRESS: 128 Monroe NE 87108 PHONE: 268-8828

OWNER: Pinon Creek Property Co CONTACT: Jack Stahl

ADDRESS: 1911 Wyoming Blvd NE PHONE: 292-6635

ARCHITECT: — CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Forstbauer Surveying CONTACT: Ron Forstbauer

ADDRESS: 1100 Alvarado Dr NE PHONE: 268-2112

CONTRACTOR: — CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAINAGE PLAN

X GRADING PLAN

X EROSION CONTROL PLAN

____ ENGINEER'S CERTIFICATION

____ OTHER

PRE-DESIGN MEETING:

X YES

____ NO

____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL

____ PRELIMINARY PLAT APPROVAL

____ S. DEV. PLAN FOR SUB'D. APPROVAL

____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL

____ SECTOR PLAN APPROVAL

____ FINAL PLAT APPROVAL

____ FOUNDATION PERMIT APPROVAL

____ BUILDING PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY APPROVAL

X GRADING PERMIT APPROVAL

____ PAVING PERMIT APPROVAL

____ S.A.D. DRAINAGE REPORT

____ DRAINAGE REQUIREMENTS

____ OTHER _____ (SPECIFY)

DATE SUBMITTED: 12/23/94

BY: Thomas D. Isaacson

RECEIVED
DEC 30 1994
HYDROLOGY

**ISAACSON & ARFMAN, P.A.**

*Consulting Engineering Associates*

*Albuquerque, NM*

# DRAINAGE REPORT

FOR

# PINON CREEK VILLAGE SUBDIVISION

ALBUQUERQUE NEW MEXICO
JUNE 1994


Prepared by:

ISAACSON & ARFMAN, P.A.
128 Monroe Street, NE
Albuquerque, NM 87108

Thomas O. Isaacson Date

# DRAINAGE INFORMATION SHEET

8651

PROJECT TITLE: Pinon Creek Subdivision Village ZONE ATLAS/DRNG. FILE #: L-23 / D3A

LEGAL DESCRIPTION: Lot 15, Pinon Creek

CITY ADDRESS: East of Four Hills Road, North of Pinon Creek Rd.

ENGINEERING FIRM: Isaacson & Arfmen CONTACT: Tom Isaacson

ADDRESS: 128 Monroe NE, 87108 PHONE: 268-8828

OWNER: The Jack Stahl Co CONTACT: Jack Stahl

ADDRESS: 1911 Wyoming NE PHONE: 292-6635

ARCHITECT: — CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Forstbauer Surveying CONTACT: Ron Forstbauer

ADDRESS: 1100 Alvarado NE PHONE: 268-2112

CONTRACTOR: — CONTACT: _____

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

X YES

___ NO

X COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. 94-284

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

X DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

X PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 6/7/94

BY: Thomas O. Isaacson

RECEIVED
JUN 10 1994

# TABLE OF CONTENTS



# APPENDIX

# I. INTRODUCTION

Pinon Creek Village subdivision is a proposed 16 lot single family detached R-1 subdivision with private streets. The subdivision is a replat of Lot 75, Pinon Creek. The subdivision is located east of Four Hills Road and north of Pinon Creek Road. See the Vicinity Map, Page A-1 of the Appendix, for further location details. See Figure A, found in the rear pocket, for a copy of the preliminary subdivision plat.

A pre-design meeting was held with Mr. Fred Aguirre of the Hydrology Section, City of Albuquerque.* The following two findings were established as design criteria for the project:

1. An approved Drainage Report will be required for preliminary plat approval. Include an infrastructure list/plat for approval with the Drainage Report.

2. The main item of concern that will need to be addressed is downstream capacity.

* See Appendix, Page A-2 for copy of Meeting Report

## II. EXISTING CONDITIONS

FLOOD HAZARD. The site is not within a flood hazard area -- see FIRM Panel 37.

SOILS. Soils consist of SCS soils BKD, a loamy fine sand, and Te, a stony sandy loam. Outcrops of weathered granite are exposed at several locations on the site.

TOPOGRAPHY. The site is steep to very steep with slopes ranging from 9 to 40 percent.

OFFSITE FLOWS. Offsite flows entering the site are negligible. Previous offsite flows from the east have been almost entirely eliminated by grading in conjunction with the construction of North Four Hills Subdivision Unit II. As a result of this grading, only approximately 250 square feet of drainage area now enters the site from the east?

## III. ONSITE DRAINAGE MANAGEMENT

Figure B, found in the pocket at the rear of this report, shows the proposed lot layout, street configuration, preliminary grading scheme, and adjoining properties as they relate to the project.

A private street, Pinon Creek Place, will provide access and drainage facilities for the development. Pinon Creek Place will have a width of 26 feet and have mountable curbs built to City standards. Street grades will range from 1% to 12% as shown on Figure B.

From the south boundary of Pinon Creek Village, Pinon Creek Place will be constructed through Lot 74 of Pinon Creek Subdivision within a recorded easement for access, drainage, and utilities. See Pages A-3 thru A-7 for copies of this easement. A transition from a typical crowned street section, with drainage in both gutters, to a tilted street section, with drainage in the west gutter only, will be made in this easement area. The curb and gutter section will change to a standard City section with an 8-inch high curb face.

Pinon Creek Place will connect to Pinon Creek Road at the West boundary of Pinon Creek Subdivision. From this location to Four Hills Road, Pinon Creek Road is a standard 32-foot wide City street in a 50-foot right-of-way.

Figure B shows the proposed grading concept. Lots 6-11 and Lot 16 are typical residential lots with all drainage flowing to the new private street, Pinon Creek Place. The remainder of the lots will have drainage from the front portions of the lot drain to the street; however, the rear portions of the lots will be allowed to drain off the rear of the lots as sheetflow in their historic flow patterns. All new hard-surfaced areas will drain to the streets.

roof to front

Rear yard runoff areas and flow rates to adjoining properties will be reduced as shown in the following table.

| Lots | Drains to | Runoff Area (ac.) | | Percent Reduction |
|---|---|---|---|---|
| | | Existing | Proposed | |
| 1-3 | La Canada Park | 3.64 | 0.65 | 82 |
| 4-5 | Unplatted Tract North | 0.37 | 0.22 | 41 |
| 12-15 | Lot 74 Pinon Creek | 0.84 | 0.44 | 48 |

Since runoff will be reduced in a corresponding amount to the area reduction (between 41 and 82 percent), runoff to adjoining property is justified.

Street capacity for Pinon Creek Place with mountable curb was checked and found to be adequate. $Q_{100}$ at Analysis Point No. 1 (south boundary of subdivision) is 12 cfs (see Appendix, Page A-8, for calculations). Street capacity at this location is 26 cfs (see Page A-9).

Street capacity for this street with a tilted section and an 8-inch high curb is also adequate. See Page A-10 for analysis.

## IV. DOWNSTREAM CAPACITY

PINON CREEK ROAD. Drainage in Pinon Creek Road is analyzed at Analysis Point No. 2 at the location of two existing storm drain inlets approximately 50 feet east of Four Hills Road (see Figure B). The tributary drainage area to Analysis Point No. 2 is reduced by 1.19 acres as a result of drainage into two existing retention ponds located just south of Pinon Creek Village (see Figure B). The analysis of flows to these ponds and their storage capacities is given on Page A-11 of the Appendix. $Q_{10}$ at Analysis Point No. 2, is 14 cfs and $Q_{100}$ is 24 cfs. Flows in Pinon Creek Road will be reduced by the interception capacity of the two inlets referred to above. The southerly inlet is a Type A inlet and the northerly is a Type B inlet. These two inlets will intercept 11 cfs, leaving 3 cfs of the $Q_{10}$ flows passing to Four Hills Road. See Page A-12 for calculations.

FOUR HILLS ROAD. Street Capacity in Four Hills Road is analyzed at two locations: Analysis Point No. 3 located just north of Pinon Creek Road, and Analysis Point No. 4 located just north of Tijeras Arroyo. Page A-16 of the

Appendix (Four Hills Road Drainage Map) shows these locations and their respective drainage areas.

Flows tributary to Analysis Point No. 3 have a tributary drainage area of 25 acres; however, this area is reduced by ponding from an old railroad bed embankment to an area of 6.8 acres. This reduction is justifiable for two reasons: (1) the existing ponding has sufficient storage volume to intercept all anticipated flows, and (2) when the property to the north of Pinon Creek Village is developed all tributary flows will be intercepted and carried into the Tramway Channel.

Street flows at Analysis Point No. 3 are summarized as follows:

| | $Q_{10}$ | $Q_{100}$ |
|---|---|---|
| | 13 | 23 |
| Flow above Inlets | | |
| Inlet Interception | 9.4 | 13.2 |
| Flow below Inlets | 3.6 | 9.8 |

All Flows are in cfs.
See Page A-13 for calculations.

$Q_{100}$ at Analysis Point No. 4 is 63 cfs, less 30 cfs drainage inlet interception or 33 cfs (A-8). This analysis point is just north of the Four Hills Road bridge over Tijeras Arroyo. This is at the sag point of the street and there are two Type 1A inlets draining the street. The inlets are connected to an 18-inch diameter outlet which controls the discharge and limits the storm drain outflow to 5 cfs. The remainder, 28 cfs, will overflow the curbs into the Tijeras Arroyo floodplain.

This analysis considers only flows in Four Hills Road originating north of Tijeras Arroyo. Flows from the area south of Tijeras Arroyo which drain to the same sag point in the street will add to the total. The magnitude of these flows was not determined.

The construction of Pinon Creek Village will have a minimal effect on downstream conditions. Existing inlets in Pinon Creek Road will capture all but 3 cfs of the 10-year flows and carry them to the Tramway Channel. The 10-year design storm runoff in Four Hills Road does not violate the flow depth (0.5') or the one twelve foot dry driving lane criteria for arterial streets. Existing inlets in Four Hills Road at Tijeras Arroyo are undersized for existing conditions and the effects from Pinon Creek Village will be negligible.

## IV. INFRASTRUCTURE LIST

The Infrastructure List is given on the following page.

DRB Case No. 94-284
DRC Project No.:
Date Submitted:

FIGURE 12

INFRASTRUCTURE LIST

EXHIBIT "A"
TO SUBDIVISION IMPROVEMENTS AGREEMENT
DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LIST

**PINON CREEK VILLAGE**

Following is a summary of Public/Private Infrastructure required to be constructed or financially guaranteed to be constructed for the above development. This summary is not necessarily a complete listing. During the design process, if the City determines that appurtenant items have not been included in the summary, those items will be included in the listing and related financial guarantee, if the items normally are Subdivider responsibility. In addition, any unforeseen items which arise during construction which are necessary to complete the project and which normally are the Subdivider's responsibility are the responsibility of the Subdivider and will be included in the financial guarantee provided by the City.

| SIZE | IMPROVEMENT | LOCATION | FROM | TO |
|---|---|---|---|---|
| **PUBLIC IMPROVEMENTS** | | | | |
| 8' | Sanitary Sewer | Pinon Creek Place | Tijeras Arroyo | Cul-del-Sac |
| **PRIVATE IMPROVEMENTS** | | | | |
| 6" | Waterline | Pinon Creek Place | Pinon Creek Road | " |
| Mountable | Curb & Gutter | " | " | " |
| 4' | *Sidewalk (One Side) | " | " | " |
| 26' F/F | Residential Paving | " | " | " |

* Sidewalk to be deferred.

## MISCELLANEOUS

Residential street lighting per DPM.

Grading: Certification per DPM (prior to release of financial guarantees). To include private retaining and perimeter walls as required on the approved grading plan (not to be financially guaranteed).

All waterlines to include fire hydrants, valves, & appurtenances per DPM

Street trees per ordinance (not to be financial guaranteed)

Prepared by: Thomas O. Isaacson _____ 6/9/94
Thomas O. Isaacson — Date
Isaacson & Arfman, P.A.

***** ***** ***** ***** ***** ***** ***** ***** ***** ***** ***** ***** ***** ***** ***** ***** ***** ***** ***** ***** *****

Development Review Board Member Approval

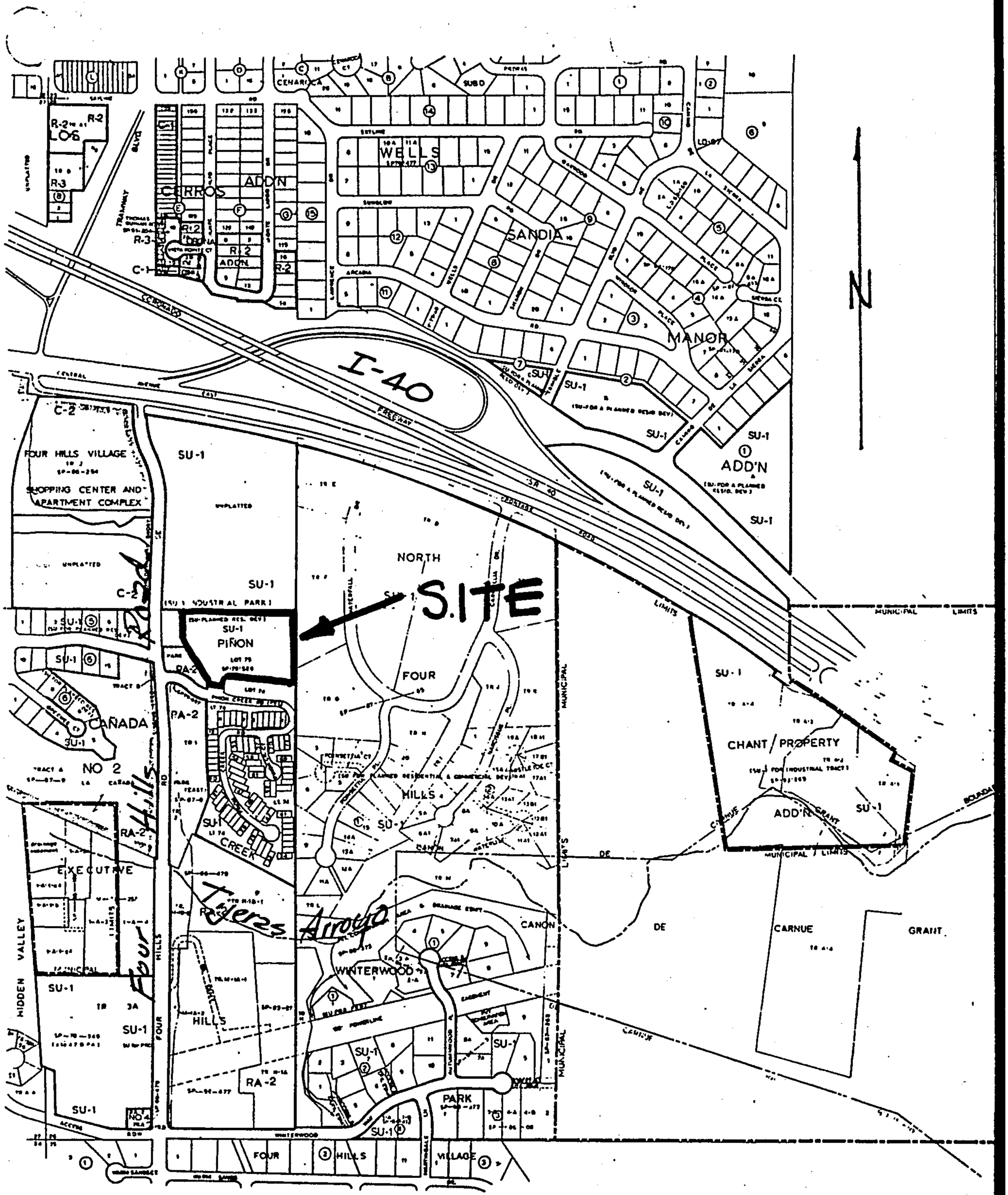
_____ _____
Transportation Development — Date

_____ _____
Utility Development — Date

_____ _____
Parks & Recreation — Date

_____ _____
City Engineer/AMAFCA — Date

_____ _____
DRB Chairman — Date




# VICINITY MAP

Scale: 1" = 750' ±

*ISAACSON & ARFMAN, P.A.*

SUBJECT _____ JOB NO. ____

BY _____ DATE _____ SHEET NO. ____ OF ____

A-1

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
UTILITY DEVELOPMENT DIVISION/HYDROLOGY SECTION

**PRE-DESIGN CONFERENCE**

DRAINAGE FILE/ZONE ATLAS PAGE NO.: L-23 DATE: 4/14/94

EPC NO.: _____ DRB NO.: _____ ZONE: _____

SUBJECT: PINON CREEK LOT 75

STREET ADDRESS: _____

LEGAL DESCRIPTION: _____

| APPROVAL REQUESTED: | | | | |
|---|---|---|---|---|
| | X | PRELIMINARY PLAT | X | FINAL PLAT |
| | ____ | SITE DEVELOPMENT PLAN | ____ | BUILDING PERMIT |
| | ____ | GRADING/PAVING PERMIT | ____ | OTHER |

| ATTENDANCE: | WHO | REPRESENTING |
|---|---|---|
| | TOM ISAACSON | |
| | FRED J. AGUIRRE | |
| | | |

FINDINGS:

- AN APPROVED DRAINAGE REPORT WILL BE REQUIRED FOR PRELIMINARY PLAT APPROVAL. INCLUDE AN INFRASTRUCTURE LIST/PLAT ~~for~~ FOR APPROVAL WITH YOUR DRAINAGE REPORT
- THE MAIN ITEM OF CONCERN THAT WILL NEED TO BE ADDRESSED WITH THIS SUBMITTAL IS DOWNSTREAM CAPACITY

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

| | | | |
|---|---|---|---|
| SIGNED: | Fred J. Aguirre | SIGNED: | Tom Isaacson |
| TITLE: | | TITLE: | |
| DATE: | 4/14/94 | DATE: | 4/14/94 |

**NOTE** PLEASE PROVIDE A COPY OF THIS PRE-DESIGN FORM WITH THE DRAINAGE SUBMITTAL.

A-2

100

# GRANT OF EASEMENT

THIS GRANT OF EASEMENT made this 2nd day of February, 1980, by and between PINON CREEK, INC., a New Mexico corporation (herein "the Grantor") and PINON CREEK, LTD., a New Mexico limited partnership (herein "the Grantee"), WITNESSETH:

RECITALS:

1. Grantor is the owner of that certain tract of land situate in Bernalillo County, New Mexico (herein "Parcel 1"), being more particularly described as follows:

> LOTS ONE (1) through SEVENTY-FOUR (74), inclusive, as shown and designated on that certain "SUMMARY PLAT OF PINON CREEK (A Replat of Canada Village Unit 4)" filed of record on August 20, 1979, in the Office of the County Clerk of Bernalillo County, New Mexico, in Vol. D-9, page 172, containing 10.0719 acres, more or less.

Pinon Creek Home Owners Assoc.

2. Grantee is the owner of that certain tract of land situate in Bernalillo County, New Mexico (herein "Parcel 2"), being more particularly described as follows:

> Tract numbered Seventy-five (75) as shown and designated on that certain "SUMMARY PLAT OF PINON CREEK (A Replat of Canada Village Unit 4)" filed of record on August 20, 1979, in the Office of the County Clerk of Bernalillo County, New Mexico, in Vol. D-9, page 172, containing 4.8541 acres, more or less.

Now Stahl

3. Grantor desires to grant, and Grantee desires to receive, an easement over, under and across that part of Parcel 1 (herein "the Easement Premises"), as shown by cross-hatching on Exhibit "A" attached hereto and incorporated herein. The Easement Premises are more particularly described as follows:

> Beginning at a point which is south 06° 10' 10" west a distance of 17.7 feet from boundary point "E", said point of beginning being the southwest corner of Lot 75 as the same is shown and designated on the SUMMARY PLAT OF PINON CREEK (A replat of Canada Village Unit 4), as recorded in the office of the County Clerk of Bernalillo County, New Mexico, on August 20, 1979, in Book D-9 at Page 172; running thence from said point of beginning south 84° 29' 36" east a distance of 87.43 feet; thence south 05° 30' 24" west a distance of 60.5 feet to the south side of the above described easement; thence north 84° 29' 36" west a distance of 88.13 feet to the west boundary of Pinon Creek; thence north 06° 10' 10" east a distance of 60.5 feet to the point of beginning.

4. The Easement Premises are presently improved with a paved private street and underground utility lines, conduits and pipelines for water, sewer, electricity and gas are installed underground across the Easement Premises. Parcel 2 is presently unimproved, but is zoned for, and intended to be used for, a high density residential development.

A-3

NOW, THEREFORE, in consideration of the sum of TEN DOLLARS ($10.00) and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the following grants, agreements, covenants and restrictions are made:

1. GRANT OF EASEMENT. Grantor hereby grants to Grantee, its successors in interest, assigns, tenants, guests and invitees (herein collectively called "Grantee") an an easement appurtenant to Parcel 2, a perpetual easement over, under and across the Easement Premises for the following purposes: (a) ingress and egress for pedestrian and vehicular traffic of every nature whatsoever; (b) drainage; and (c) the installation and use of utility lines, wires, pipelines and conduits for water, sewer, electricity, gas, telephone and cable television, including the right to connect to existing utility lines, wires, pipelines and conduits presently installed on the Easement Premises; provided, however, that, should Grantee connect to existing utility lines, wires, pipelines and conduits, Grantee shall pay for the costs of: (i) enlargement of existing utility lines, wires, pipelines and conduits to the extent necessary to serve the residents and occupants of Parcel 2, (ii) repair of any damage or physical alterations of the Easement Premises incident to said enlargement or resulting from changes to the Easement Premises which are necessary to permit Grantee to use the Easement Premises for the purposes set forth herein, and (iii) separate metering of utilities which serve Parcel 2.

2. USE OF EASEMENT PREMISES. Use of the Easement Premises is not limited to present uses of Parcel 2 or present means of transportation. Exclusive use of the Easement Premises is not hereby granted. Grantor, its successors in interest, assigns, tenants, guests and invitees (herein collectively "Grantor") expressly retains the right to use the Easement Premises for the same purposes and subject to the same restrictions and conditions as Grantee as more specifically set forth in paragraph 1 above. Neither Grantor nor Grantee shall construct or maintain any building or other structure upon the Easement Premises which restricts or impedes the rights of ingress or egress of the other party. Both parties covenant that vehicles shall not be parked on the Easement Premises. If Parcel 2 is hereafter divided into two (2) or more parcels by separation of ownership or by lease, all such parts shall enjoy the benefit of the easements hereby created.

3. RUNNING OF BENEFITS AND BURDENS. All provisions of this instrument, including the benefits and the burdens, run with the land and are binding upon and inure to the benefit of the respective successors in interest and assigns of the parties hereto.

4. CONSTRUCTION. The rule of strict construction does not apply to this grant. This grant shall be given a reasonable construction so that the intention of the parties to confer a usable right of enjoyment on the Grantee is carried out.

5. ATTORNEY FEES. Either party may enforce this instrument by appropriate action and should it prevail in such litigation, it shall recover as part of its costs a reasonable attorney's fee.

IN WITNESS WHEREOF, the parties have executed and delivered this instrument the date first written above.

11.0

GRANTOR: PINON CREEK, INC.,
a New Mexico corporation

By _____
HUGH E. HOOD, President

GRANTEE: PINON CREEK, LTD.,
a New Mexico limited partnership

By _____
PHILLIP H. RABY, General Partner

By _____
JACK L. STAHL, General Partner

By: DCHN, INC., a New Mexico
corporation and General Partner

By _____
HUGH E. HOOD, President

STATE OF NEW MEXICO )
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 8th day of February, 1980, by HUGH E. HOOD, President of PINON CREEK, INC., a New Mexico corporation, on behalf of said corporation.

My commission expires:
3/27/83

_____
NOTARY PUBLIC

STATE OF NEW MEXICO )
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 8th day of February, 1980, by PHILLIP H. RABY, a General Partner of PINON CREEK, LTD., a New Mexico limited partnership, on behalf of said partnership.

My commission expires:
7-8-84

_____
NOTARY PUBLIC

STATE OF NEW MEXICO )
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 7th day of February, 1980, by JACK L. STAHL, a General Partner of PINON CREEK, LTD., a New Mexico limited partnership, on behalf of said partnership.

My commission expires:
7-9-81

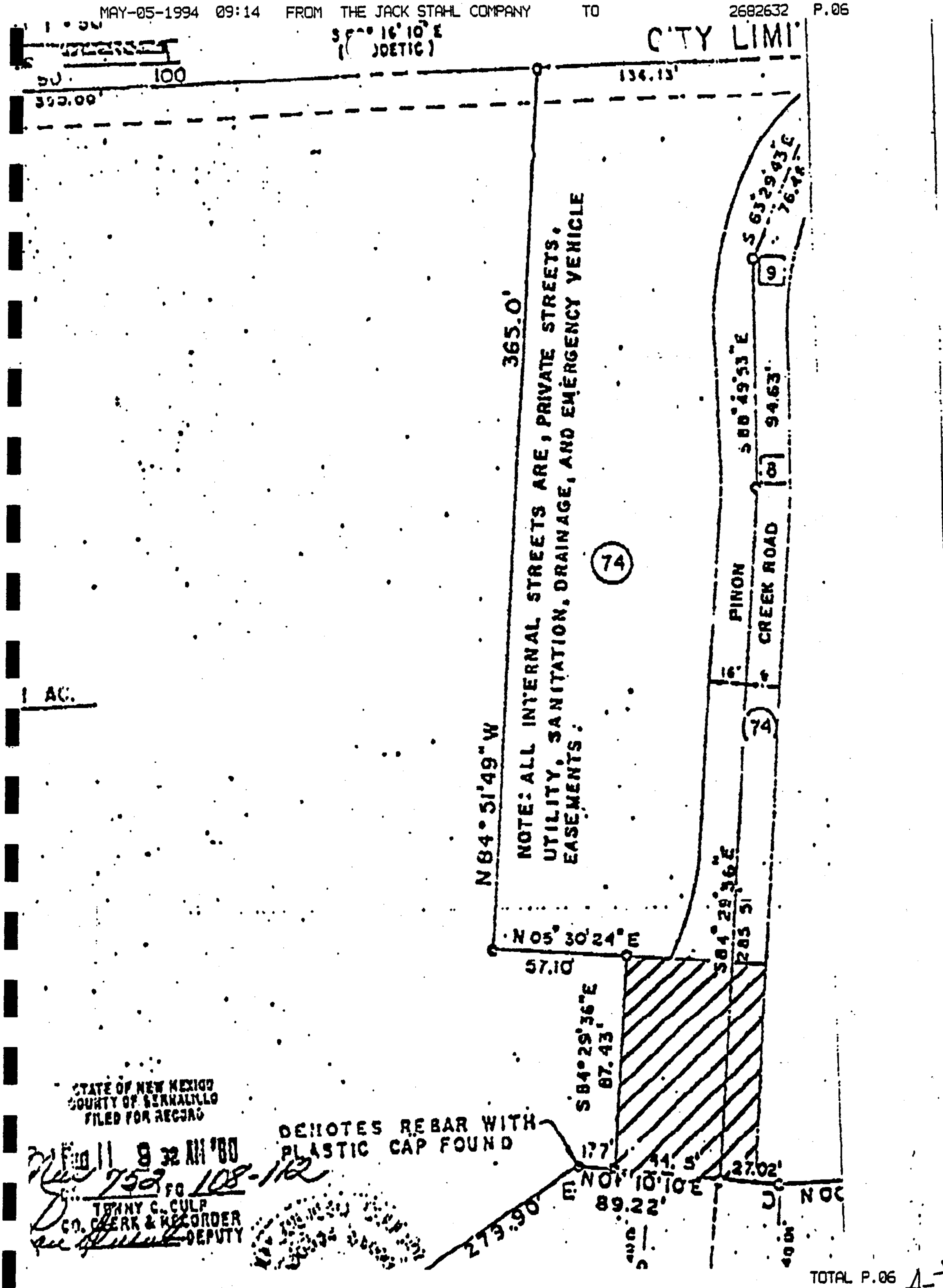
NOTARY PUBLIC

STATE OF NEW MEXICO )
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 8th day of February, 1980, by HUGH E. HOOD, President of DONN, INC., a New Mexico corporation and a General Partner of PINON CREEK, LTD., a New Mexico limited partnership, on behalf of said partnership.

My commission expires:
3/27/83

NOTARY PUBLIC




STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

FEB 11 8 32 AM '80

Rec 750 FG 108-112

TONY C. CULP
CO. CLERK & RECORDER
DEPUTY

Rec

# Runoff Calculations @ Selected Analysis Points

Precipitation Zone 3
Peak Discharge Rates for Land Treatments:

| Runoff Frequency | Runoff Rate (cfs/ac) A | B | C | D |
|---|---|---|---|---|
| $Q_{10}$ | .58 | 1.19 | 2.00 | 3.39 |
| $Q_{100}$ | 1.87 | 2.60 | 3.45 | 5.02 |

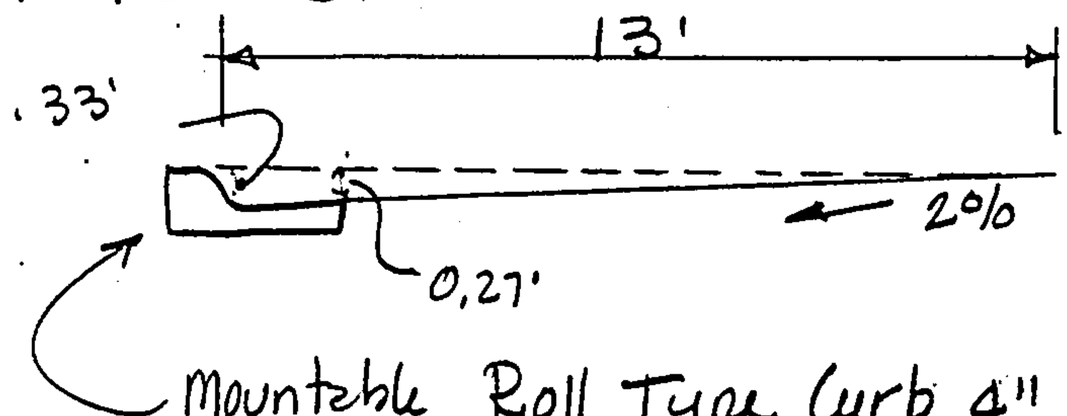
| Analysis Point Number & Location | Land Treatment Area (ac) A | B | C | D | $Q_{10}$ (cfs) | $Q_{100}$ (cfs) |
|---|---|---|---|---|---|---|
| (1) South Bdry Pinon Creek Village | – | 2.13 | 0.55 | 0.94 | 7 | 12 |
| (2) Pinon Creek Rd @ Exist Inlets | .37 | 1.63 | 1.94 | 2.46 | 14 | 24 |
| (3) 4 Hills Rd north of Pinon Creek Rd | 1.5 | 0.3 | 3.9 | 1.1 | 13 | 23 |
| (4) 4 Hills Rd north side Tijeras Arroyo | 2.8 | 1.9 | 8.9 | 4.4 | (3T*) 17 | (63*) 33 |

* Flow Rates prior to interception by ~~Cat~~ Inlets

## ANALYZE PINON CREEK PLACE STREET CAPACITY

$Q_{100}$ = 12 cfs (developed)

COMPUTE STREET CAPACITY FOR PLANNED STREET:




Mountable Roll Type Curb, 4" Curb Face

$$\text{Area} = \left(\frac{.27+.33}{2}\right) 1.5' = 0.45'$$

$$+ \frac{.27+0}{2} \times 11.5' \quad \frac{1.55'}{2.00\ \Phi}$$

Wetted Perimeter = 13.0 + .3 = 13.3'

R = A/W.P = 2/13.3 = .15'

n = .017

S = 7.4%

$$Q = \frac{1.486}{n} A R^{2/3} S^{1/2}$$

$$= \frac{1.486}{.017} \times 2.00 \times .15^{2/3} \times .074^{1/2}$$

= 13 cfs (1/2 Street)

x 2 = 26 cfs

∴ Mountable Curb Section will carry max Flows.

CHECK DEPTH x VELOCITY for $Q_{10}$:

V = Q/A = 13/2 = 6.5 fps (full depth flow)

Depth x Velocity = 0.33 x 6.5 = 2.2 " " "

OK, since $\text{Depth}_{10} \times V_{10}$ will be less than 2.2

## CHECK STREET CAPACITY FOR TRANSITION SECTION

At transition all flows will be on one side of street. Use Std City 8" high curb section at this location

$Q_{100} = 12$ cfs

Per Plate 22.3 D-1, all street slopes will carry 12 cfs on one side of street.

# RETENTION POND ANALYSIS, PINON CREEK SUBDIVISION

Tributary Drainage Area : 1.19 acres (See Figure A)

Land Treatment Breakdown:

A = .28 ac

C = .84 ac

D = .07 ac

1.19 ac

$$\text{Weighted } E = \frac{(.28 \times .66) + (.84 \times 1.29) + (.07 \times 2.36)}{1.19} = 1.20''$$

$$V_{360} = \frac{1.20}{12} (1.19 \times 43{,}560) = 5184 \text{ cf}$$

Storage Volume of West Pond:

| Contour Elev | Area (sf) | Avg Area (sf) | Depth (ft) | Volume (cf) |
|---|---|---|---|---|
| 19.2 | – | – | – | |
| | | 94 | .8 | 75 |
| 20 | 188 | | | |
| | | 281.5 | 2 | 563 |
| 22 | 375 | | | |
| | | 525 | 2 | 1050 |
| 24 | 675 | | | |
| | | 1050 | 1 | 1050 |
| 25 | 1425 | | | 2738 |

Storage Volume of East Pond:

140' x 20' x 2' = 5600

5338 cu. ft.

Ponds will store $V_{360}$, no runoff to Pinon Creek Road

# STREET & CATCH BASIN HYDRAULICS
# PINON CREEK ROAD
# ANALYSIS POINT NO. 2

## Q10 ANALYSIS:

Street Hydraulics

Street: Pinon Creek Rd @ Inlets

Q10 ~~100 yr. Q~~: 14 1/2 Street Flow: 7

Street slope: 6%

Max. flow depth: .32' (Plate 22.3 D-1)

Catch Basin Hydraulics

Upstream inlet(s): 1-Sing6 A & 1-B

DPM grating capacity plate: 22.3 D-5 & D-7

Intercepted Q: 5+6 = 11

Remaining surface flow: 3

Max. flow depth: .26'

## Q100 Analysis:

Street Hydraulics

Street: Pinon Creek Road, Analysis Point 2

100-yr. Q: 24 cfs 1/2 Street Flow: 12 cfs

Street slope: 6%

Max. flow depth: 0.37' (Plate 22.3 D-1)

Catch Basin Hydraulics

Upstream inlet(s): 1-Sing6 A & 1-B

DPM grating capacity plate: 22.3 D-5 & 22.3 D-7

Intercepted Q: 7+10 = 17 cfs

Remaining surface flow: 7 cfs (Total Street)

Max. flow depth: .26'

# STREET & CATCH BASIN HYDRAULICS
# FOUR HILLS ROAD
# ANALYSIS POINT NO. 3

## Q10 Analysis:

Street Hydraulics

Street: Four Hills Rd @ Analysis Point No. 3

Q10 ~~100-yr. Q~~: 13 1/2 Street Flow: 6.5

Street slope: 4.9% (48' F/F)

Max. flow depth: .31 (Plate 22.3 D-3)

Catch Basin Hydraulics

Upstream inlet(s): 1- Single A

DPM grating capacity plate: 22.3 D-5

Intercepted Q: 4.7

Remaining surface flow: 1.8 cfs

Max. flow depth: .22'

## Q100 Analysis

Street Hydraulics

Street: Four Hills Rd @ Analysis Point 3

100-yr. Q: 23 1/2 Street Flow: 11.5

Street slope: 4.9 (48' F/F)

Max. flow depth: .37 (Plate 22.3 D-3)

Catch Basin Hydraulics

Upstream inlet(s): 2 Type 1A

DPM grating capacity plate: 22.3 D-5

Intercepted Q: 6.6 cfs

Remaining surface flow: 4.9 cfs (1/2 street)

Max. flow depth: 0.28'

## CHECK LANE ENCROACHMENT
## FOUR HILLS ROAD SOUTH OF PINON CREEK ROAD

$Q_{10} = 3 + 36 = 6.6$ cfs

Half Street Flow = 3.3 cfs

Flow Depth in Street = .26'

Less gutter depth (1.5") .26 - .13' = .13

Lane encroachment (2% cross slope)

= .13 ÷ .02 = 6.5'

OK inside lane not under water

STREET & CATCH BASIN HYDRAULICS
FOUR HILLS ROAD
ANALYSIS POINT NO. 4

Street Hydraulics

Street: Four Hills Road north of Tijeras Arroyo (AP#4)
100-yr. Q: 33 1/2 Street Flow: 16.5
Street slope: flat
Max. flow depth: 0.67'

Catch Basin Hydraulics

Upstream inlet(s): 1-Type A each side of street
DPM grating capacity plate: ———
Intercepted Q: 5 cfs *

Remaining surface flow: 28 cfs
Max. flow depth: 0.67'
Downstream inlet(s): ———
DPM grating capacity plate: ———
Intercepted Q: ———

Total interception capacity: ———
As % of design Q: ———

* Catch Basin capacity limited by 18" diameter outlet pipe @ S=0.61%.
Q=5 cfs

North

H-V
TOM
5711.50

EBEWAY

I-40

Ponding

Pinon Creek Village

Tijeras Arroyo

MUNICIPAL LIMITS

Four Hills Road

Existing Inlets

Tramway Channel

3

4

# FOUR HILLS ROAD DRAINAGE MAP

Scale: 1"=200'

A-16

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Pinon Creek Village Subdivision ZONE ATLAS/DRNG. FILE #: L23/D34

DRB #: 94-284 EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Lot 75, Pinon Creek

CITY ADDRESS: East of 4 Hills Rd, North of Pinon Creek Rd.

ENGINEERING FIRM: Isaacson & Arfman PA CONTACT: Tom Isaacson

ADDRESS: 128 Monroe NE PHONE: 268-8828

OWNER: The Jack Stahl Co CONTACT: Jack Stahl

ADDRESS: 1911 Wyoming NE PHONE: 292-6635

ARCHITECT: — CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Forstbauer Surveying CONTACT: Ron Forstbauer

ADDRESS: 1100 Alvarado SE PHONE: 268-2112

CONTRACTOR: — CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

X DRAINAGE REPORT
___ DRAINAGE PLAN
___ CONCEPTUAL GRADING & DRAINAGE PLAN
___ GRADING PLAN
___ EROSION CONTROL PLAN
___ ENGINEER'S CERTIFICATION
___ OTHER

PRE-DESIGN MEETING:

X YES
___ NO
X COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL
X PRELIMINARY PLAT APPROVAL
___ S. DEV. PLAN FOR SUB'D. APPROVAL
___ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
___ SECTOR PLAN APPROVAL
___ FINAL PLAT APPROVAL
___ FOUNDATION PERMIT APPROVAL
___ BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ GRADING PERMIT APPROVAL
___ PAVING PERMIT APPROVAL
___ S.A.D. DRAINAGE REPORT
___ DRAINAGE REQUIREMENTS
___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 9/22/94

BY: Thomas D. Isaacson

SEP 22 1994

# *ISAACSON & ARFMAN, P.A.*

***Consulting Engineering Associates***

*Thomas O. Isaacson, PE & LS • Fred C. Arfman, PE*
*Scott M. McGee, PE*


September 22, 1994

Mr. Scott Davis
Hydrology Division
Public Works Department
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

**RE: Pinon Creek Subdivision (L-23/D3A)**

Dear Scott:

This letter, with attachments, is written in response to your drainage report review letter of July 18, 1994. Responses to your comments are given below. In addition, a grading plan is submitted as requested by Fred Aguirre at the DRB hearing on the preliminary plat.

*1.a) All roof drains must drain to the front.*

This note has been placed on the grading plan and will also be placed on the final grading plan.

*1.b) A demarcation line should be identified on the grading/drainage plan behind which no grading will occur.*

This line is shown on the new grading plan and will also be shown on the final grading plan as well as the final plat if requested. Covenants will be filed with the final plat to ensure that no grading occurs behind the limits of the line.

The grading plan now includes a private storm drain channel, combined with a retaining wall, to collect drainage from Lots 1-4 and convey it to the public right-of-way. No grading will be permitted downslope from this facility.

SEP 22 1994


*128 Monroe St. NE • Albuquerque, NM 87108 • (505) 268-8828 • FAX (505) 268-2632*

2. *Comments regarding the existing drainage pond for Pinon Creek Townhomes and Pinon Creek Road storm drain.*

Pond Storage Capacity: This is a retention pond which has capacity to completely store the design 6-hour rainfall. See Page A-11 of the drainage report for runoff and storage capacity calculations. Since the pond is a retention pond, it will not add flows to the Pinon Creek Road storm drain.

I observed the pond after the approximate 2-inch rainfall occurring this summer and the pond appeared to have been approximately 30% filled.

In the event the pond should fill, it would overflow into Pinon Creek Road and be collected by the storm drain inlets located just east of Four Hills Road. There is no drainage line from the pond to the storm drain in Pinon Creek Road.

As you may recall in recent meetings we agreed to installing one new inlet in Pinon Creek Road to compensate from increased runoff and reduce flows to Four Hills Road. Attachment 'A' shows the location of the proposed new inlet. Attachment 'B' gives the revised runoff at this location (resulting from changes to the grading plan). Attachment 'C' shows the flow interception from the existing and proposed new inlets.

I believe these amendments to the drainage report now address your comments and I request your approval as amended.

Very truly yours,

Thomas O. Isaacson

for Thomas O. Isaacson rtl

TOI/rtl

Attachments

## RUNOFF CALCULATIONS @ SELECTED ANALYSIS POINTS

Precipitation Zone 3
Peek Discharge Rates for Land Treatments:

| Runoff Frequency | Runoff Rate (cfs/ac) A | B | C | D |
|---|---|---|---|---|
| $Q_{10}$ | .58 | 1.19 | 2.00 | 3.39 |
| $Q_{100}$ | 1.87 | 2.60 | 3.45 | 5.02 |

| Analysis Point Number & Location | Land Treatment Area (ac) A | B | C | D | $Q_{10}$ (cfs) | $Q_{100}$ (cfs) |
|---|---|---|---|---|---|---|
| (1) South Bdry Pinon Creek Village | – | 2.13 | 0.55 | 0.94 | 7 | 12 |
| (2) Pinon Creek Rd @ Exist Inlets | .37 | 1.63 | ~~1.34~~ | 2.46 | ~~14~~ 15 | ~~24~~ 25 |
| (3) 4 Hills Rd north of Pinon Creek Rd | 1.5 | 0.3 | 3.9 | 1.1 | 13 | 23 |
| (4) 4 Hills Rd north side Tijeras Arroyo | 2.8 | 1.9 | 8.9 | 4.4 | (37*) 17 | (63*) 33 |

* Flow Rates prior to interception by ~~Cut~~ Inlets



ATTACHMENT 'B'

# Concerns 7/12/94

-1.- 2:1 slopes shown will require slope protection.

-2.- Will water make turn onto Pinon Creek Rd?

-3.- Who is responsible for maintenance of existing retention ponds?

-4- All roof drains must drain to front.

-5- Rear yards on a # of lots will continue to impact adjacent properties. Why not utilize backyard ponding who owns Park area?

-6- Will onsite roadway flows enter lots 1-4 since driveways may go down to pads.

-7- What is knuckle area shown if road is 24' wide?

-8- Extensive retaining walls needed are not proposed to be built @ rough grading since custom homes are likely.

-9- Since there is not cap. @ 4-Hills Road low pt. perhaps ponding in rear yards & add'l. inlets in Pinon Hills Road should be considered.

→ Floodplain

Phone conversation w/ Tom Issac.

- Rear yard ponding on lots 1-4 possible, however w/ steep slopes would need to pond against a floodwall.