HYDROLOGY F23/D3 TWO PLAN

F23- D3

2 PLANS

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

F23 - D3

May 11, 1983

Mr. Fred Arfman
Isaacson-Arfman, Inc.
2727 San Pedro N.E.
Suite 114A
Albuquerque, N.M. 87110

RE: GALBRETH LANDS-LOTS 26 & 27 CONCEPTUAL GRADING AND DRAINAGE PLAN

Dear Fred:

My comments regarding the referenced project:

a. Please provide a cross-sectional detail of the off-site drainage swale. Was this facility designed and constructed to engineering standards? Why and when was the facility constructed? I'm concerned that this facility was simply placed as an "interim" measure.

b. In an area of this type, considerable detail must be given to how off-site runoff will be routed around each unit and into the right-of-way. To me, it's very risky to simply state that "sheet flows are allowed to pass over portions of the structure and then discharge at controlled points". It appears that more detail should be provided to address this issue.

c. No mention is made regarding the impact of this development on the "downstream capacity" of existing infrastructure.

d. If runoff co-mingles between lots, easements must be dedicated as "Private Common Drainage Easements". The private drive should be a drainage easement, as well.

I realize that this area provides a unique opportunity for some creative and elaborate home building; however, in my opinion the plan does not completely address how runoff will be handled. I am concerned that without further refinement to the plan we will be creating a potential for future complaints and problems.

I will be glad to discuss these items with you further. Please call me at your convenience.

Very truly yours,

Brian G. Burnett
Civil Engineer/Hydrology

BGB/tsl

Isaacson &
Arfman, P.A.

Consulting Engineering
Associates

RECEIVED
MAY 21 1983
CITY ENGINEER

May 19, 1983

Mr. Brian Burnett
M.D.D./Hydrology
City of Albuquerque
Albuquerque, N.M. 87103

RE: Galbreth Lands-Lots 26 & 27
Conceptual Grading & Drainage Plan

Dear Brian:

In response to your May 11, 1983 correspondence, Items a-d, we are supplying you with this letter containing the requested additional information. Your May 11th comments shall be addressed in the same order as they originally appeared.

a. Cross-sectional detail is shown on the attached detail. This facility is located on National Forest Lands, and the District Engineer, Jerry Greer (Cibola) stated that this facility is within an easement granted to the City of Albuquerque. It is currently being redesigned for additional side-slope protection (armoring). This drainage swale was originally constructed for the general welfare and safety of those homes located downhill, and was considered a permanent improvement.

b. We concur with your comment. Therefore, only those storm waters which fall on the structures are allowed to "pass over". All other surrounding waters shall be routed as best as possible around the structures. Additional detail shall be provided on the detailed drainage and grading plan.

c. The downstream capacity of the existing infrastructure is not adversely affected by the developed site. In fact, those properties directly below (to the south) benefit since flows which once crossed through their property are now re-directed via the proposed drainage easement and access road to the public right-of-way. Once flows discharge from the site, they travel down Paso del Puma to Cedarbrook Ave., then south on Cedarbrook Place and empty into the City channel which runs parallel and south of Cedarbrook Ave.

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d. Due to the terrain and characteristics of this site, flows must be allowed to "co-mingle" and it has always been our intention as stated on the submitted sketch plat, that private common drainage easements and combination private drive and drainage easements be dedicated on the final subdivision plat.

Hopefully these responses are consistent with your thinking and accurately recap our conversation of May 18th. Please advise so that we may proceed to the next developmental stage.

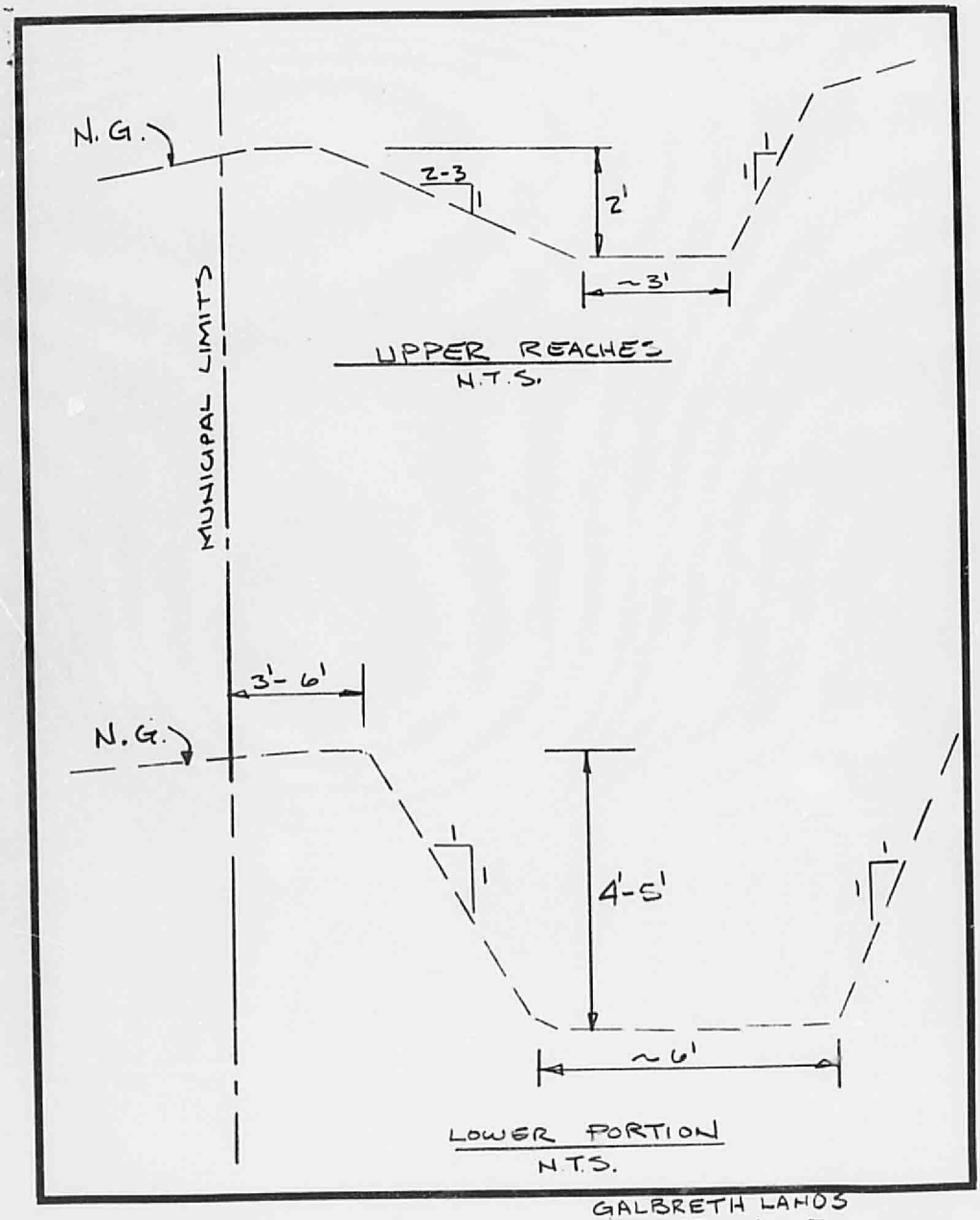
Very truly yours,
ISAACSON & ARFMAN, P.A.

Fred C. Arfman

Fred C. Arfman, P.E.

Attachment

FCA/naf



Isaacson & Arfman, P.A.
Consulting Engineering Associates

SUBJECT GALBRETH LANDS OFFSITE CHANNEL JOB NO.
BY FCA DATE 5/83 SHEET NO. 1 OF 1

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

F23 - D3

May 31, 1983

Mr. Fred Arfman
Isaacson-Arfman PA
128 Monroe N.E.
Albuquerque, N.M. 87108

RE: GALBRETH LANDS-LOTS 26 & 27 CONCEPTUAL GRADING AND DRAINAGE PLAN

Dear Fred:

Thank you for your follow-up of May 23, 1983. Since my first response, I have generated several thoughts requiring your input as well:

1. The "earthen-roof" and "sheet flows passing over parts of the structures" are two concepts that certainly reflect a non-standard approach to home building. Since it is out of the ordinary, would your client be willing to file a hold-harmless agreement indemnifying the City of any damage resulting from storm runoff? Based on current requirements and policies, this apppears to be the only way to allow such structures.

2. As a further suggestion regarding the plat, it may be appropriate to place "Common, Private Drainage Easements" along the lot lines, thus allowing the co-mingling of runoff between units.

3. By way of a carbon copy, I am forwarding this information to Nick Estes at Legal for his review. I'm interested in hearing his legal opinion regarding this approach.

I look forward to your thoughts regarding item #1. Due to the fact that this development is unique from several standpoints, I feel it appropriate to resolve this issue prior to plat signature.

Please call if you have any questions.

Very truly yours,

Brian G. Burnett
Civil Engineer/Hydrology

BGB/tsl

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE June 1, 1983 REF. NO._____

TO: Nick Estes, Legal

FROM: Brian Burnett, Hydrology BB

SUBJECT: GALBRETH LANDS DRAINAGE PLAN

Enclosed is pertinent information regarding the referenced drainage plan. Of specific interest to me is the fact that the home construction calls for "sheet flows to pass over parts of the structure". To my knowledge, this concept has never been used in Albuquerque.

In my letter of May 31, 1983 to Fred Arfman, engineer for the project, I suggested the possibility of a hold-harmless agreement indemnifying the City of any damage resulting from storm runoff.

Based on the fact that this approach is quite unique, is this an acceptable route to secure plat signatures? Or, should I simply state that storm runoff be routed around the structures in "normal" fashion?

Thank you for your help.

BB/tsl

Enclosure

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE June 14, 1983 REF. NO._____

TO: Brian Burnett, Civil Engineer/Hydrology

FROM: Charles N. Estes, Jr., Assistant City Attorney

SUBJECT: Galbreth Lands Drainage Plan

In response to your memo of June 1, 1983, I concur that an indemnification agreement should be sufficient to protect the City's interest. I think the plat should contain a specific provision stating in substance as follows:

> In consideration of the City authorizing the provision of this plat permitting sheet flows to pass over portions of structures to be located on this property, the owner, for himself and successors in interest to any residential lots which are part of this property, hereby agrees to hold the City of Albuquerque, its officials, employees, and agents, harmless from any liability resulting from such treatment of sheet flows.

CE/mk

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

F23-D3

June 20, 1983

Mr. Fred Arfman
Isaacson-Arfman, PA
128 Monroe N.E.
Albuquerque, New Mexico 87108

RE: GALBRETH LANDS - LOTS 26 & 27 - CONCEPTUAL GRADING AND DRAINAGE PLAN

Dear Fred:

Per our conversation last week, I am forwarding additional information regarding the referenced project:

1. Legal has concurred with the proposal to place a hold harmless disclaimer on the plat due to the unique nature of proposed construction (see enclosure).

2. This letter will serve as conceptual approval of the referenced plan. Prior to release of a building permit for each structure, please provide this office for review and approval a copy of the detailed grading plan.

Please direct any further plans or questions to Fred Aguirre. Thank you for the work on this project.

Very truly yours,

Brian G. Burnett
Civil Engineer/Hydrology

BGB/fs
Enclosure

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE August 23, 1983 REF. NO._____

TO: Fred J. Aguirre, Civil Engineer/Hydrology

FROM: Anita P. Miller, Assistant City Attorney

SUBJECT: Private Street Improvement - Galbreth Lands Drainage Plan

Enclosed please find the above-referenced agreement. I have approved the Agreement, but please make sure that all blanks are filled it: date of completion, date Letter of Credit is due, and date by which City may require alternate security.

Please send me a fully executed copy after execution.

AM/mk
Encl.

Isaacson &
Arfman, P.A.

Consulting Engineering
Associates

RECEIVED
APR 23 1984
HYDROLOGY SECTION

April 17, 1984

Mr. Fred Aguirre
City of Albuquerque
P.O. Box 1293
Albuquerque, N.M. 87103

RE: Lots 26-1 & 27-1, Block 11, Glenwood Hills
Additions, Unit II

Dear Fred:

This letter is being supplied to your office for clarification of the site's drainage aspects due to the proposed decrease in density from five (5) residential lots to two (2).

As stated in the earlier approved drainage report for this subdivision, this site is very unique due to its foothills location. Storm waters are permitted to cross lot lines as was the case in their natural state. The approved report for this site also allowed sheet flows to cross the lot lines of the four lower lots. Then, all flows were captured by the drainage swale situated within the access road located on the down slope's southerly property line. All storm waters are then released to the public right-of-way.

We intend to maintain the exact plan which allows the onsite handling of storm waters and provides storm water runoff protection to those homes situated downhill from these two lots. It should also be noted that prior to any replatting, all storm waters discharged into the rear yards of the existing homes to the south. Those homeowners are now protected and are in a superior position than they were before, with a net increase on zero with respect to the original density.

Please include this correspondence in the drainage file as a report amendment.

Very truly yours,
ISAACSON & ARFMAN, P.A.

Fred C. Arfman

Fred C. Arfman, P.E.

FCA/naf

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

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

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

April 24, 1984

Mr. Fred Arfman
Isaacson & Arfman, P.A.
128 Monroe NE
Albuquerque, NM 87108

REF: LOTS 26-1 & 27-1, BLOCK 11, GLENWOOD HILLS ADDITIONS, UNIT II
(F23-D3)

Dear Fred:

Based on the information provided for the replatting of the above referenced lots, we have no problem accepting the change based on the fact that you intend to maintain the exact plan which allowed the on-site handling of storm waters.

If you have any questions, please feel free to call me at 766-7644.

Sincerely,

Bernie J. Montoya
Hydrologic Engingeering Tech. CE

BJM:mrk

INFORMATION SHEET

PROJECT TITLE Lots 26 & 27 Glenwood Hills TYPE OF SUBMITTAL DRNG As-Built

ZONE ATLAS PAGE NO. F-23 CITY ADDRESS

LEGAL DESCRIPTION Lots 26-1 & 27-1, Block N, Glenwood Hills Add'n, II

ENGINEERING FIRM Isaacson & Arfman CONTACT Fred Arfman

ADDRESS 128 Monroe St. N.E. PHONE 268-8828

OWNER Dr. William Galbreth CONTACT Bill

ADDRESS PHONE 298-8103

ARCHITECT DNA CONTACT

ADDRESS PHONE

SURVEYOR Isaacson & Arfman, P.A. CONTACT (SEE ABOVE)

ADDRESS PHONE

CONTRACTOR Arenal Paving CONTACT Edwin

ADDRESS PHONE

PRE-DESIGN MEETING:

___ YES
___ NO
___ COPY OF CONFERENCE RECAP SHEET PROVIDED

PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL:

___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
___ SITE DEVELOPMENT PLAN APPROVAL
___ FINAL PLAT APPROVAL
___ BUILDING PERMIT APPROVAL
X CERTIFICATE OF OCCUPANCY APPROVAL
___ ROUGH GRADING PERMIT APPROVAL
___ GRADING/PAVING PERMIT APPROVAL
X OTHER Approval of Paving of Access & Drainageway (SPECIFY)

DATE SUBMITTED: 7/9/84

BY: Fred C. Arfman

RECEIVED JUL 09 1984 HYDROLOGY SECTION

RECEIVED JUL 09 1984 HYDROLOGY SECTION

7446

INFORMATION SHEET

PROJECT TITLE ~~LOTS~~ GALBRETH DRIVE TYPE OF SUBMITTAL CERTIFICATION

ZONE ATLAS PAGE NO. F-23 CITY ADDRESS PASO DEL PUMA

LEGAL DESCRIPTION LOTS 26-1 & 27-1, BLOCK 11, GLENWOOD HILLS, UNIT II

ENGINEERING FIRM ISAACSON & ARFMAN CONTACT FRED C. ARFMAN

ADDRESS 128 MONROE ST. PHONE 268-8828

OWNER DR. WM GALBRETH CONTACT BILL GALBRETH

ADDRESS _____ PHONE 298-8103

ARCHITECT DNIA CONTACT _____

ADDRESS _____ PHONE _____

SURVEYOR FORSTBACKER SURVEYING CONTACT 268-0248

ADDRESS _____ PHONE _____

CONTRACTOR ARGENT PAVING CONTACT _____

ADDRESS _____ PHONE _____

PRE-DESIGN MEETING:

___ YES
___ NO
___ COPY OF CONFERENCE RECAP SHEET PROVIDED

PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL:

___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
___ SITE DEVELOPMENT PLAN APPROVAL
___ FINAL PLAT APPROVAL
___ BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ ROUGH GRADING PERMIT APPROVAL
___ GRADING/PAVING PERMIT APPROVAL
X OTHER CERTIFICATION (SPECIFY)

DATE SUBMITTED: _____

BY: _____

DRAINAGE ANALYSIS

for

GALBRETH LANDS

being a

Replat of Lots 26 & 27, Block 11

of the

Glenwood Hills Addition, Unit 2

June, 1983

Prepared by:

Fred C. Arfman, P.E.

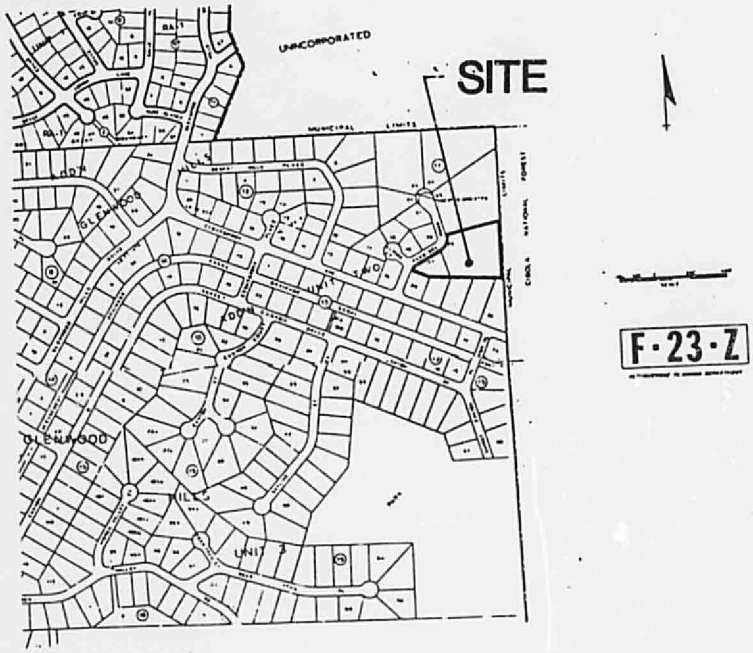
ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe St. N.E.
Albuquerque, N.M. 87108
(505)268-8828

FRED C. ARFMAN
NEW MEXICO
7322
REGISTERED PROFESSIONAL ENGINEER

6-29-83

OFF-SITE CONDITIONS

Watershed Area - This site is affected by sheet flows from the northeast. Their length of travel is approximately 250 feet over a total area of 33,000 sq. ft. (0.76 Ac.). The off-site watershed is outlined on the Ortho-Topo Area Map as shown below.



Storm Flows-Criteria:

Time of Concentration - Due to the steep slopes and the relatively short length of travel, the computed Tc is less than the minimum of 10 minutes. Therefore, the Tc used for this set of calculations shall be 10 minutes.

Average Velocity - Where L = 250 feet, Tc = 10 minutes

then $V = \frac{L}{Tc \times 60}$ (ft/sec)

$= 0.42$ ft/sec

from Plate 22.2 B-1

V = 1.15 it/sec ---------- Use this value

then Tc= 3.62 minutes --------- Use 10 minutes

'C' Factor - From Plate 22.2 C-1, a 'C' factor of 0.43 is picked off of the curve for a SCS Soils Group B and estimating that 20% of the slope is impervious due to large boulders.

Rainfall Volumes - From Plate 22.2 D-1

Volume for a 6 hr-100 year frequency equals 2.6" or 0.2167'. Ten year frequency equals 1.71".

V_{10} = 1.71" 0.1423'

V_{100} = 2.60" 0.2167'

Intensities - Both based on a Tc = 10 minutes

$I_{10} = 3.68$

$I_{100} = 5.59$

Peak Rates - Q = CIA

$Q_{10} = (0.43)(3.68)(0.76) = 1.20$ cfs

$Q_{100} = (0.43)(5.59)(0.76) = 1.83$ cfs

Offsite Flow Characteristics - This site is affected by an offsite drainage swale/berm facility located adjacent to the southerly half of the east property line. From

our discussion with the staff engineers of the Cibola National Forest, they state that this facility is placed in an easement granted to the City of Albuquerque. The storm water collection swale intercepts sheet flows and minor concentrated flows and redirects them to the City Drainage Channel directly south.

The intent of this swale is obvious, in that it protects those homes or future structures from uncontrolled runoff. This swale is tentatively scheduled for a redesign to increase its efficiency and to provide for a more maintenance free facility.

Those off-site flows which sheet flow onto the site, north of the drainage swale, are allowed to pass freely through the site. It is the unique characteristics of this land on the lower slopes of the Sandia Mountains which allow for the passage of flows from one lot to another. This drainage feature is allowed since it is impractical and ecologically destructive to try to divert or stop those flows.

Proposed Treatment of Off-site Flows - Off-site flows shall be handled in three different ways, dependent upon their point of intersection with the property. First, those flows entering onto the site along the northwest boundary are not to be obstructed. They shall sheet flow or exit

the site in a minor concentrated form as they always have. Secondly, those flows entering onto the site from the northeast, are allowed to sheet flow across the site until they are intercepted by the proposed drainage improvements situated within the drainage access and utility easement. This minor facility shall be located parallel to the southerly property line and will handle all offsite as well as onsite flows. These storm waters are allowed to free discharge at a design point along the easterly right-of-way of Paso del Puma. The third approach to handling offsite flows has already been referenced. It is the offsite storm water collection swale located along the south half of the east property line. This facility intercepts those storm waters that would have normally entered onto the site and routes them to the entrance structure designed into the City Drainage Channel located south and parallel to Cedarbrook Ave. This drainage channel is a concrete trapozoidal facility which transfers storm water to the southwest. The adequacy of this system was addressed in the conceptual drainage plan and the approval given by the City staff. Copies of these correspondences may be found in the Appendix of this report.

Proposed Drainage Easement - Language may be written on the plat that allows for those sheet flows to cross the lot lines of the individual lots until those flows reach the

private way. This private way shall be dedicated as an access, utility and draiange easement. Storm waters shall be collected and diverted to the west. This storm drainage improvement shall be in combination with the road improvement and also protection of residential lots located below this new facility. It should be noted that these lower lots (off-site) were previously unprotected from any high runoff storms. (See accompanying topographical map).

ON-SITE CONDITIONS

The onsite flow volumes and rates are calculated based on the rational formula and in accordance with the design procedures found in the Development Process Manual, Vol. 2, Chapter 22.

The undeveloped storm waters generated on-site exit the site along two separate reaches of the westerly and southerly property lines. The westerly flows are very minor and that portion of the site from which they're developed shall remain in its natural state. Therefore, those minor values shall not be addressed as part of the final drainage solution. The on-site flows for the remainder of the site are analyzedusing the following base data:

Area	= 2.0 acres
Time of concentration (Tc)	= 10 minutes
Length of travel	= 400 feet
Drop in elevation	= 140 feet
Slope (max.)	= 35%
Velocity (max. for overland)	= 2 fps
'C' factor	= 0.43
Rainfall (10 year)	= 1.71 inches
Rainfall (100 year)	= 2.60 inches
Intensities (10 year)	= 3.68
Intensities (100 year)	= 5.59

Peak Rates - Q = CIA

Q_{10} = (0.43)(3.68)(2.0) = 3.2± cfs

Q_{100} = (0.43)(5.59)(2.0) = 4.8± cfs

These undeveloped flows combined with those flows from off-site presently sheet flow or exit the site in minor concentrations across the south property line. They then pass through the backyards of those homes situated between the site and the public right-of-way, Cedarbrook Ave., which finally accepts all of the storm waters.

The developed flow characteristics are similar to the undeveloped flows except for a slightly higher 'C' value and for the planned drainage facility along the south property line. The developed 'C' value shall be 0.50. The drainage facility shall intercept those flows that would have normally flowed across the site's property line and channelize them to the west.

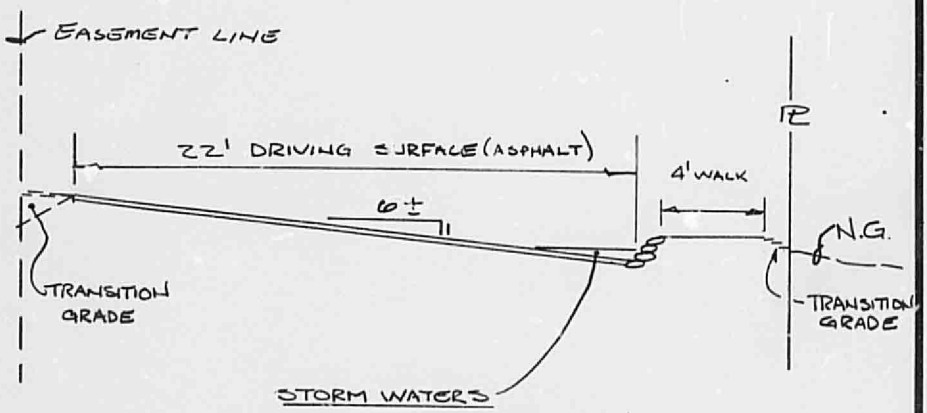
Peak Rates - Q = CIA

Q_{10} = (0.50)(3.68)(2.0) = 3.7 cfs

Q_{100} = (0.50)(5.59)(2.0) = 5.6 cfs

The only major concentration of channelized flows will happen in the drainage easement. At the outfall point on Paso del Puma, the flow depths and velocities are expected to be as shown on the following page.

PROPOSED IMPROVEMENTS IN EASEMENT



UPPER REACH (15% MAX.)

Q = 3.7 CFS, THEN:

DEPTH = 0.35'
F.B = 0.65'
AREA = 0.46 S.F
VEL. = 7.92 FPS

LOWER REACH (5% INTO PASO DEL PUMA)

Q = 5.6 CFS, THEN:

DEPTH = 0.50'
F.B = 0.50'
AREA = 0.94 S.F.
VEL = 5.80 FPS

There shall be no ponding on-site except where it naturally occurs.

The downstream capacity will easily accept the increased flows of 0.8 cfs. Furthermore, the rerouting of these storm waters in the fashion mentioned above, greatly reduces the risk of them flowing to those property owner situated below (to the south of the site).

As stated, the proposed platting of this minor subdivision will dedicate a combination access, surface drainage and utility easement. All flows generated by this site shall be handled by the proposed improvements within the limits of the easement.

Nuisance waters shall also be allowed to flow in the same manner as do the storm waters. Since natural landscaping is a requirement of this subdivision, very little nuisance water runoff is expected.

APPENDIX

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

F23 - D3

May 11, 1983

RECEIVED
MAY 18 1983
Ans'd.....

Mr. Fred Arfman
Isaacson-Arfman, Inc.
2727 San Pedro N.E.
Suite 114A
Albuquerque, N.M. 87110

RE: GALBRETH LANDS-LOTS 26 & 27 CONCEPTUAL GRADING AND DRAINAGE PLAN

Dear Fred:

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c. No mention is made regarding the impact of this development on the "downstream capacity" of existing infrastructure.

d. If runoff co-mingles between lots, easements must be dedicated as "Private Common Drainage Easements". The private drive should be a drainage easement, as well.

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I will be glad to discuss these items with you further. Please call me at your convenience.

Very truly yours,

Brian G. Burnett
Civil Engineer/Hydrology

BGB/tsl

MUNICIPAL DEVELOPMENT DEPARTMENT
Richard S. Heller, P.E., City Engineer ENGINEERING DIVISION Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

Isaacson &
Arfman, P.A.

Consulting Engineering
Associates

May 19, 1983

Mr. Brian Burnett
M.D.D./Hydrology
City of Albuquerque
Albuquerque, N.M. 87103

RE: Galbreth Lands-Lots 26 & 27
Conceptual Grading & Drainage Plan

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

d. Due to the terrain and characteristics of this site, flows must be allowed to "co-mingle" and it has always been our intention as stated on the submitted sketch plat, that private common drainage easements and combination private drive and drainage easements be dedicated on the final subdivision plat.

Hopefully these responses are consistent with your thinking and accurately recap our conversation of May 18th. Please advise so that we may proceed to the next developmental stage.

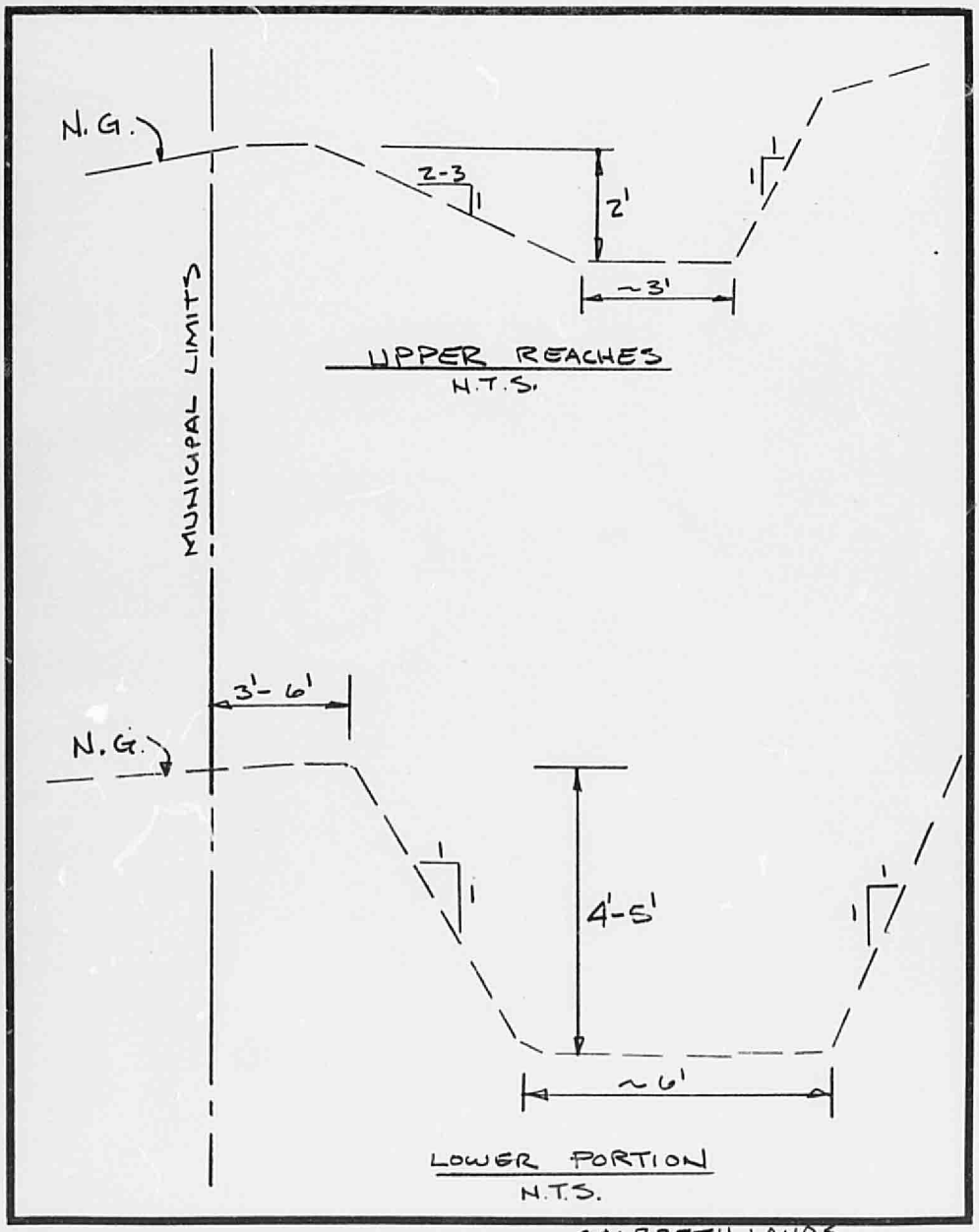
Very truly yours,
ISAACSON & ARFMAN, P.A.

Fred C. Arfman

Fred C. Arfman, P.E.

Attachment

FCA/naf



Isaacson & Arfman, P.A.
Consulting Engineering Associates

GALBRETH LANDS
SUBJECT OFFSITE CHANNEL JOB NO.
BY FCA DATE 5/83 SHEET NO. 1 OF 1

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

F23-D3

June 20, 1983

RECEIVED
JUN 24 1983
Ans'd.....

Mr. Fred Arfman
Isaacson-Arfman, PA
128 Monroe N.E.
Albuquerque, New Mexico 87108

RE: GALBRETH LANDS - LOTS 26 & 27 - CONCEPTUAL GRADING AND DRAINAGE PLAN

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Very truly yours,

Brian G. Burnett
Civil Engineer/Hydrology

BGB/fs
Enclosure

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE June 14, 1983 REF. NO._____

TO: Brian Burnett, Civil Engineer/Hydrology

FROM: Charles N. Estes, Jr., Assistant City Attorney

SUBJECT: Galbreth Lands Drainage Plan

In response to your memo of June 1, 1983, I concur that an indemnification agreement should be sufficient to protect the City's interest. I think the plat should contain a specific provision stating in substance as follows:

> In consideration of the City authorizing the provision of this plat permitting sheet flows to pass over portions of structures to be located on this property, the owner, for himself and successors in interest to any residential lots which are part of this property, hereby agrees to hold the City of Albuquerque, its officials, employees, and agents, harmless from any liability resulting from such treatment of sheet flows.

CE/mk