1/30/94

John Armstrong, Hydrology City of Albuquerque

Re: Brentwood Hills Block 30 B, File H 22 D 4

The attached drawings have the changes you requested.

Relocte the Rundown on sheet 2
 Add header curb at transition on rundown detail
 Sheet 2

3. Remove Channel detail sheets 2, 3, & 4
4. Change floor grades and street grades to assure
the town house floors are above the street.
5. Correct North arrow sheet 4.



## City of . Albitette ette

August 12, 1983

Mr. Ray Harrison Ray Harrison & Associates 1517-A Girard Blvd. N.E. Albuquerque, NM 87106

RE: BRENTWOOD HILLS SUBDIVISION (H22-D4)

Dear Mr. Harrison:

In accordance with Brian Burnett's instructions for processing the referenced report, I was to forward a letter of approval with the filing of the encroachment agreement. Please consider this letter your approval for the referenced report. Note: The agreement is in the process of being filed.

If you have any questions regarding the above, please feel free to call me at 766-7467.

Very truly yours,

Civil Engineer/Hydrology

FJA/ts1

MUNICIPAL DEVELOPMENT DEPARTMENT

Richard S. Heller, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

= AN EQUAL OPPORTUNITY EMPLOYER =

6/23/83 Fred, Re: Ray Harrisons ?'
Presturod Hills Subdivisions H22-D4. a. Hold Hamless is upstairs for Frank K. t sign. I've asked Theresa to monitor b. approval can be forwarded once Signed and filed ( we weed (ogy). Also ask that written notice blank (page2) must be filled in. Bra -

## CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE

May 5, 1983

REF. NO.

TO:

Brian Burnett, Civil Engineer/Hydrology

FROM:

Jim Fink, Asst. City Engineer, Hydrology

SUBJECT: ENCROACHMENT AGREEMENT FOR BRENTWOOD HILLS SUBDIVISION

I would like to see more detail on the sketch supplied with this Agreement such as X-section line drawn, elevations indicated and proposed road shown. We will also want a plan to re-vegetate the proposed fill arms.

JF/tsl

## CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE

May 4, 1983

REF. NO .\_

TO:

Distribution List

FROM:

Brian Burnett, Civil Engineer/Hydrology

SUBJECT:

ENCROACHMENT AGREEMENT FOR BRENTWOOD HILLS SUBDIVISION

Enclosed is a request for encroachment along the Piedra Lisa Channel, south of Candelaria and west of Nakomis. Before approving or denying the request I would appreciate your comments. Please return them by 5/9/83. Thank you.

BB/tsl

Distribution:

George Paul, Street Maint. Engineer Bob Fosnaugh, Traffic Engineer Bob Kielich, Asst. City Engineer, Design Jim Fink, Asst. City Engineer, Hydrology

5-4-83

Don't like what is pictured here .. I think the owner should clear dirt mow or build retainer wall, to provide safe truck access thru the affected area!

(Commente in blue, on attached sheets).

/ GePaul

#### REAL PROPERTY ENCROACHMENT AGREEMENT

betw and	THIS AGREEMENT een the City of	made this	day of	municipal		by and (City)	
	(User).						

#### RECITAL

The User is the Owner of certain real property located at 2801 Nakomis Dr., N.E. in Albuquerque, New Mexico, and more particularly described as follows:

Block 30B, Brentwood Hills Subdivision, Albuquerque, Bernalillo County, New Mexico, as the same is shown and designated on Plat filed in the Office of the Bernalillo County Clerk on June 24, 1977.

The City is the owner of certain real property, easement, or public rightof-way adjoining or abutting the above described property of the User. The User wishes to encroach upon the City's property by constructing an improvement thereon or has already encroached upon the City property as follows:

Road and Utility Easement Licroachment and Fill Encroachment

A sketch of the proposed or existing improvement is attached hereto and made a part of this Agreement.

The City is agreeable to the encroachment of said improvement provided that the User comply with the provisions and covenants contained herein.

NOW THEREFORE, in consideration of the mutual covenants contained herein, it is agreed by and between the City and User that the User may construct and/or maintain, at his own expense, the improvement described herein.

#### RESPONSIBILITY

The User shall be responsible for the construction and/or maintenance of said improvement and it shall conform to all laws and ordinances and administrative regulations applicable thereto. Said improvement shall not constitute a hazard to the health or safety of the general public and shall not interfere with the City's use of the propety.

#### INDEMNIFICATION AND HOLD HARMLESS

The User shall agree to defend, indemnify, and hold rarmless, the City, its officials, agents and employees from and against any and all claims, actions, suits or proceedings of any kind brought against said parties for or on account of any matter arising from the encroachment by the User or the User's failure to maintain, modify, or remove the encroachment under this Agreement.

#### REMOVAL

The User shall remove, modify, maintain, or cause same to be done and cause the premises to be returned to its original condition within \_\_\_\_\_\_\_ after receipt of written

Notice from the City. Notice shall be considered to have been received within six days after the notice is mailed if there is no actual evidence of receipt. In the event the User shall fail to comply with the Notice after the receipt of same, the City may undertake the project, at the expense of the User, and enter upon the property of the User as may be necessary to do so. The City shall assess the charge for same and any other expenses and damages arising therefrom to the User and file a lien therefore on the real property of the

#### LIABILITY

The City shall not be liable for any damages to the User's property or the improvement that may result from the maintenance, removal or any modification of the improvement.

#### NOTICE

The written notice provided for herein shall be accomplished by mailing same to:

The User may change said address by giving written notice, certified mail, return receipt requested, to the City Engineer, at 400 Marquette, N.W., Albuquerque, New Mexico 87102.

#### COVENANT RUNNING WITH THE PROPERTY

The obligation of the User set forth herein shall be binding upon the User, his heirs, and assigns, and the property of the User as described herein and will rum with said property until released by the City.

President of what?

USER

By: Josep! Santangolo

Title: President

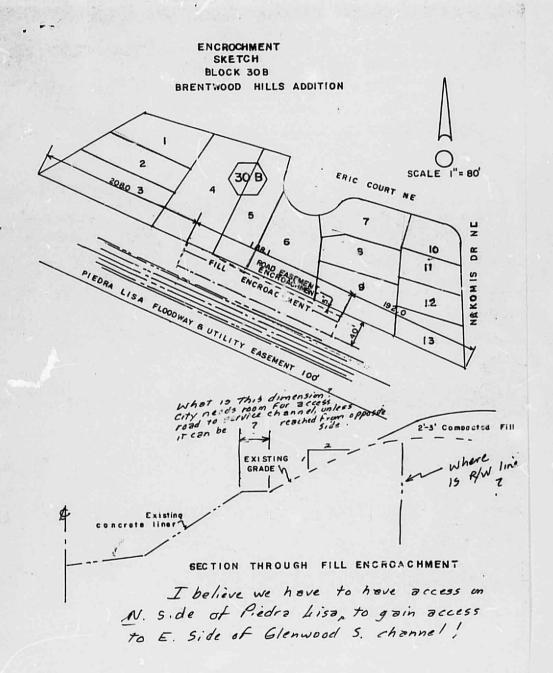
CITY OF ALBUQUERQUE

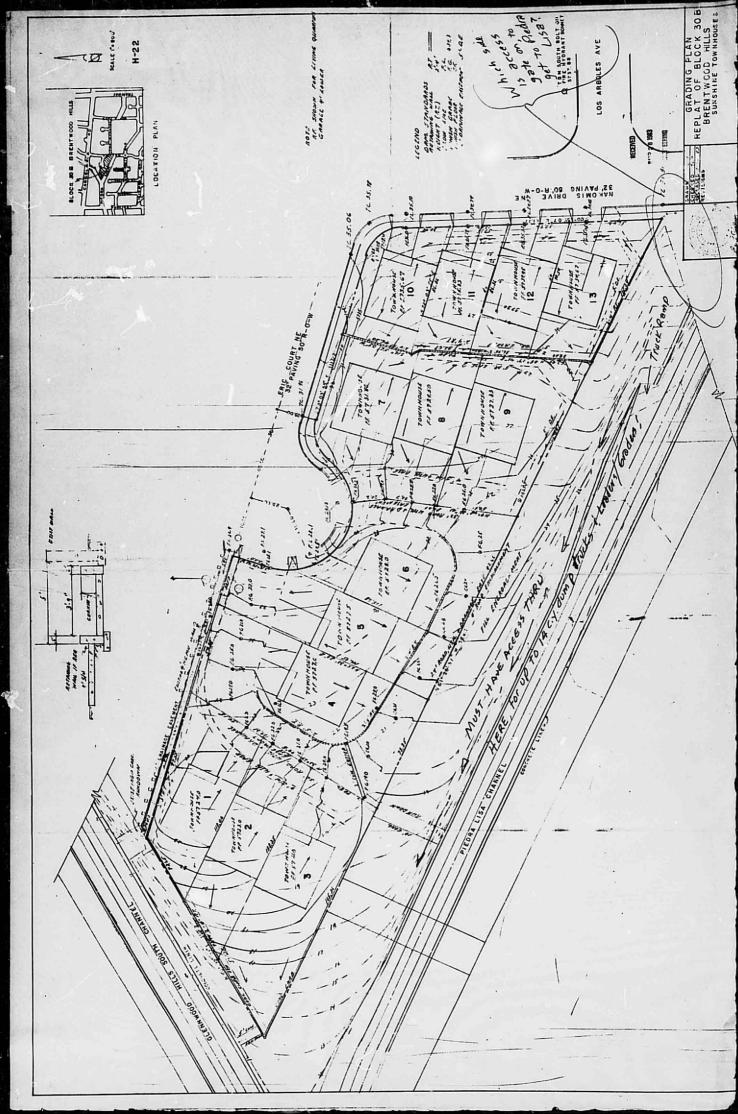
Assistant City Attorney

Chief Administrative Officer

### ACKNOWLEDGEMENTS

STATE OF NEW MEXICO )			
COUNTY OF BERNALILLO )			
The foregoing instrument	was acknowledged	d before me by	
Joseph Santangelo, on	this 18th day	of April	, 19 <u>83</u> .
		Dina Seele	4
		Notary Public	o'
My Commission Expires:		OFFICIAL SEAL GINA SEELEY HOTARY PUBLIC - NEW ME Hotary Bond I lind with Sect	XICO retary of State
		My Commission Expires 3	12-84
STATE OF NEW MEXICO ) ss.  COUNTY OF BERNALILLO )  The foregoing instrument	was acknowledge	ed before me on this	day
of, by			Chief
Administrative Officer, of the Ci	ty of Albuquerqu	ne, municipal corpor	ration, on
behalf of said corporation.			
		Notary Pul	olic
My Commission Expires:			





## CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE

May 4, 1983

REF. NO.\_\_\_\_\_

TO

Distribution List

FROM:

Brian Burnett, Civil Engineer/Hydrology

SUBJECT:

ENCROACHMENT AGREEMENT FOR BRENTWOOD HILLS SUBDIVISION

Enclosed is a request for encroachment along the Piedra Lisa Channel, south of Candelaria and west of Nakomis. Before approving or denying the request I would appreciate your comments. Please return them by 5/9/83. Thank you.

BB/tsl

Distribution:

George Paul, Street Maint. Engineer Bob Fosnaugh, Traffic Engineer Bob Kielich, Asst. City Engineer, Design Jim Fink, Asst. City Engineer, Hydrology



CONSULTING ENGINEERS

ATES 2 - D4
ALBUQUERQUE. A

1517-A GIRARD BLVD. NE ALBUQUERQUE. NEW MEXICO 87106 (505) 265-4276

May 3, 1983

Brian Burnett, Civil Engineer/Hydrology City of Albuquerque Post Office Box 1293 Albuquerque, New Mexico 87103

RECEIVED

RE: SUNSHINE TOWN HOUSES DRAINAGE PLAN (Replat of Block 30 B MAY 0 4 1983

REF: Memorandum Brian Burnett to Ray Harrison on Referenced ENGINEERING Subject dated April 13, 1983

Dear Brian:

The following are replies to the referenced memorandum by item number:

Items 1 and 2. The required form has been submitted to the Assistant City Engineer for Design and is under review. It will be modified to meet the standards of K - 10 - 2 (6 feet wide when the length is less than 270 feet.) and other comments incorporated.

Item 3. An encroachment agreement has been submitted to you for your approval.

Item 4. A note requiring vegitation has been added to the grading plan.

Item 5. The drainage of lots 10-13 to 9 has been clarified on the grading plan.

Item 6. A concrete curb and wall will be installed at the west and north side of lots 1, 2, & 3 to prevent erosion of the ditch bank.

Item 7. The Assistant City Engineer for design did not know of any rundown standards.

Item 8. The street is private, the rundown is included on the S.O 19 drawing.

Item 9. All easements except the easement that conveys drainage from Eric Court will be private.

Item 10. A drainage pipe will be placed under the driveways to convey the drainage under the driveways.

Item 11. The encroachment agreement has been submitted for your approval, and the new grading plan covers the erosion control plan.

The ortho photomap is for record of the off-site drainage area.

I request permission to fill Lots 9-13 immediately with the installation of the berm. No city property will be filled until approval of the encroachment agreement and street design approval.

Sincerely,

Ray Harrison



## City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 13, 1983

Mr. Ray Harrison Harrison & Associates 1517-A Girard 12 Albuquerque, NM 87106

RE: SUNSHINE TOWNHOUSES DRAINAGE PLAN (REPLAT OF BRENTWOOD HILLS BLOCK 30B)

Dear Ray:

I have made an initial review of the referenced project and forward the following comments:

- 1. I concur with your request to convey runoff from iric Count to the Glenwood Hills South Channel by means of a concrete rundown section. The 5' channel also appears appropriate. However, the detail should be consistent with the Block-to-Block K-10-2. I also suggest placing an expansion joint between the new channel and the existing wall.
- Approved copies of "Construction of Private Drainage Facilities in Public Right-of-Way" are required for:
  - a. The 5' concrete rundown from Eric Ct. to the Glenwood Hills South Channel.
  - b. The 5' concrete rundown from the SW corner to the Glenwood Hills South Channel.
  - c. The 10' concrete rundown from the access road to the Piedra Lisa Channel.

Bob Kielich, Asst. City Engineer-Design should be contacted for designing these details.

 Please clarify the extent of grading and filling that must take place in the Piedra Lisa Channel Right-of-Way. The encroachment, including the roadway, must be approved by this office.

### MUNICIPAL DEVELOPMENT DEPARTMENT

Richard S. Heller, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

1

Letter to Ray Harrison SUNSHINE TOWNHOUSES DRAINAGE PLAN (REPLAT OF BRENTWOOD HILLS BLOCK 30B) PAGE 2

- Revegetation, or some other acceptable erosion control measure, must be provided for the area graded in the public right-of-way.
  - 5. How is runoff going to be conveyed from Lots 10-13 to Lot 9?
- 6. Is the retaining wall along the north boundaries of 1 and 2 going to be extended to lot 3 (north and west side.) It may be more appropriate to place a concrete wall in lieau of a concrete curb in order that a wooden fence could be placed on top of the wall for privacy. Your thoughts?
- 7. Since the 5' concrete channels and rundowns are non-standard, the developer will be responsible for maintenance of these facilities.
- 8 Is the street to be public? If so, the rundown between the street surface and the south property line must be designed and constructed to City Standards.
- 9. I have indicated on the grading plan which easements should be public or private.
- 10. How are the driveways along Nakomis going to be graded to insure that runoff enters the private easement?
- 11. An encroachment agreement and erosion control plan must be approved prior to permission being granted to place fill material on the site.

Please contact me if you have any questions on these matters.

Very truly yours,

Brian G. Burnett

Civil Engineer/Hydrology

BGB/tsl



# City of Albuquerque P.O. 90X 1293 ALBUQUERQUE, NEW MEXICO 87103

## DRAINAGE REPORT INFORMATION SHEET

FROJECT REPLAT OF BLOCK 30B, BRENTWOOD HI	LLS, SUNSHINE TOWNHOUSES
ZONE ATLAS PAGE NO. H-22 1 TCITY ADDRESS	2911 Nakomis NE
LEGAL ADDRESS Block 303 Brentwood Hills	
ENGINEERING FIRM Ray Harrison & Associates	CONTACT_Ray Harrison_
ADDRESS 1517 A Girard NE	PHONE 265 4276
CWNER Joe Sangagelo	CONTACT Joe Sanangelo
ADDRESS 257 Juan Tebo NE 87123	PHONE 296 3188
ARCHITECT/SURVEYORsame	CONFET
ADDRESS	PHONE
CATE SLEMITTED 3/28/23	
By Ray Harrison	



MUNICIPAL DEVELOPMENT DEPARTMENT

Ray Harrison & Associates 1517 A Girard Blvd. NE Albuquerque, NM 87106

January 13, 1983

John Armstrong, Civil Engineer Hydrology City of Albuquerque Box 1293 Albuquerque, NM 87103

RE REPLAT OF BRENTWOOD HILLS (H22-D4)

As per our prvious discussion, modification of the Brentwood Hills Drainage Report is requested as

follows:
The approved Drainage Report called for the OFFSITE flows from Eric Court to drain through a channel, west to the Glenwood Hills South Channel. It is proposed that the flow be diverted into the new street to a rundown into the Piedra Lisa Channel. A calculation sheet, drawings to justify this is attached. This change is requested to save the cost of the channel.

Ray L. Harrison



#### ADDENDUM TO DRAINAGE REPORT

#### REPLAT OF BLOCK 30B

#### BRENTWOOD HILLS SUNSHINE TOWNHOUSES

OFFSITE FLOWS: The offsite flow area as shown by the attached orthophoto topo map is 1.2 acres 90% pave C = .9

Q<sub>100yr peak</sub> = .9 X 2.5 X 2.5 X 1.2 = 6.75 CFS

The drainage will flow off the West end of Eric Court through two sidewalk culverts to the street, down the street to a rundown and into the Piedra Lisa Channel.

Capicity of a 24" sidewalk culvert

Entrance using the broad crested weir formula

 $Q = CLH^{2/3}$  C = 3.06 Table 5-5 K & B L = 2 H = 0.6

Q = 4.35 X 2 = 8.7 CFS entrance capicity

Channel flow is 8.4 CFS per culvert = 16.8 CFS

Street Capicity 30 Ft paving inverted crown .33

D = .33 e = 15 b = 0 z = 45 x = 0

Formula 7-37 K & B K + 42

Formula 7-38 Q = 29CFS

There is more than enough capicity to handle the 6.75 CFS





# City of . Ilbuquerque P.G. BOX 1293 ALBUQUE RQUE, NEW MEXICO 87103

July 29, 1980

Mr. Ray L. Harrison Ray L. Harrison & Associates 1517-A Girard Blvd. NE Albuquerque, NM 87106

Re: Addendum to Drainage Plan, Block 30 B Brentwood Hills Subdivision, 2801 Nakomis NE

Dear Mr. Harrison:

I have received the revisions made to the plans, and I find them consistent with the requested notifications.

Very truly yours,

Bruno Conegliano Asst. City Engineer-Hydrology

BC:1f

MUNICIPAL DEVELOPMENT DEPARTMENT

422-04



CONSULTING ENGINEERS

## RECEIVED

1517-A GIRARD BLVD. NE ALBUQUERQUE, NEW MEXICO 87106 (505) 265-4276

JUL 2 8 1980

CITY ENGINEER

July 25, 1980

Assistant City Engineer. Hydrology City of Albuquerque Box 1293 Albuquerque, New Mexico 87103

Re: Addendum to Drainage Plan, Block 30 B Brentwood Hills Subdivision, 2801 Nakomis NE

Dear Sir:

Inclosed are revised drawings for the referenced drainage plan incorporating the changes and comments requested by City Engineering in your letter of July 11, 1980.

The requested changes have been handled as follows:

1.(Approval by City Engineering for work in public R-O-W) Drawing has been turned over to the city for approval through normal

channels.
2. (Drive pad details) Elevations and notes have been added to the drainage plan drawing.
3. Section C-1 corrected.

4. (Q<sub>5</sub> Positive discharge) Drainage plan drawing revised to reflect this change, calculations attached.

Ray L. Harrison



## City of . Ilbuquerque

433.04

July 11, 1980

Mr. Ray L. Harrison 1517-A Girard Blvd. NE Albuquerque, NM 87106

Reference: Block 30 B, Brentwood Hills Subdivision

Dear Mr. Harrison:

The construction plan for the above referenced site is in substantial compliance with City and AMAFCA requirements. However, before final approval can be given, the following items must be addressed:

- 1. Proposed construction plans for work in public rightof-way must receive complete approval from the City Engineer's Office.
- 2. Show adequate detail for the proposed drivepads on the grading plan. The drivepads must comply with the City standards.
- 3. Section C/1 is confusing, it does not agree with the grading plan.
- 4. What is the expected discharge rate for the pond, and does it meet the Q5 undeveloped discharge rate required in the interim drainage guideline? Show calculations.

If you have any questions concerning the above, plese feel free to centact me.

Very truly yours,

Fred Aguirre Civil Engineer

FA/1c





CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE ALBUQUERQUE, NEW MEXICO 87105 (505) 265-4276

June 25, 1980

Assistant City Engineer, Hydrology City of Albuquerque Box 1293 Albuquerque, New Mexico 87103

Re: Drainage Plan, Block 30 B, Brentwood Hills Subdivision, 2801 Nakomis NE.

Dear Sir: Inclosed are revised drawings for the referenced Drainage Plain incorporating the changes and comments requested by City Engineering. The marked up drawings requesting the changes are also inclosed.

Ray I Harrison

Line



CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE ALBUQUERQUE, NEW MEXICO 87106 (505) 265-4276

Swale Capacity
Reference: King's Handbook of Hydraulics
Open Channel Flow

Swale

Formula 7-37 
$$s = 2\% D = 0.5 n = 0.016$$
  $b = 0$   
 $z = e/D = 12$   $x = D/b = 1/x = 0$ 

$$K = \frac{1.486 (2 + 1/x)^{5/3}}{[1/x + 2(z^2 + 1)^{\frac{1}{2}}]^{2/3}} = 7.54$$

$$Q = \frac{K D^{8/3} s^{\frac{1}{2}}}{n} = 9 \text{ CFS}$$

Drainage area of swale approx 1 Ac.

$$Q = CiA = 0.7 4.2 1 = 2.94 CFS$$

Swale is more than adequate



CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE ALBUQUERQUE, NEW MEXICO 87106 (505) 265-4276

May 16,1980

Mr. Bruno Conegliano, Assistant City Engineer, Hydrology City Of Albuquerque Box 1293 Albuquerque, New Mexico

Re: Addendum to Drainage Plan, Block 30B, Brentwood Hills Subdivision (2801 Nakomis NE)

Dear Mr. Conegliano,

The referenced Drainage Plan was submitted for your review on November 15, 1979. Inclosed are revised drawings as requested in Fred Aguirre's letter of March 13, 1980.

The rundowns have been coordinated with Bohannan & Huston (Ror. Paul Bohannan), and the design of the drainage easement lining approved by the Assistant City Engineer (Q. R. Kielich).

The letter of March 13, 1980 requested information as to the Q-100 design of the drainage easement lining. Along with additional calculation this is shown on the attached sheet.

Ray L. Harrison



CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE ALBUQUERQUE, NEW MEXICO 87106 (505) 265-4276

Addendum to Drsinage Plan, Block 30B Brentwood Hills 2801 Nakomis St. NE

Capacity of Drainage Easement Channel Because of the small drainage area the easement was designed to minimum City Standards. Its capacity is as follows:

Assume a drainage depth of 6" (.5)

 $\frac{D}{b}$  = .05 K = 27.9 "Kings Handbook of Hydraulics" s = .025 D = .5 n =.016

 $Q = \frac{K}{n} D^{8/3} s^{1/2} = 43 \text{ CFS}$ 

C = .7 I = 4.6 Q = CIA A = C = 14.6 Acres Maximum drainage area by inspection = 2 Acres

The capacity of the le g culvert is as follows;

Drainage Area = 2 ac C = .7 I = 4.2 Q = CIA = 5.88 CFS

The capacity of an 18" Ø culvert is 7 GFS with no static head at entrance. (Handbook of Drsinage Products)

Depth of drainage at pond overflow wall Q = 100Yr.

Q = 5.88 CFS

Assume a broad crested weir

Q = CLH 3/2 C = 2.63 (Handbook of hydraulics) L = 11'

 $H = (\frac{CL}{Q})2/3 = .34 \text{ feet}$ 

Overflow wall will flow approx. 4" deep with a 100 Yr Rain.



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

March 13, 1980

Ray Harrison & Associates Consulting Engineers 1517-A Girard Blvd., NE Albuquerque, New Mexico 87106

Reference: Drainage Plan for Block B, Brentwood Hills Subdivision

Dear Mr. Harrison:

Approval of the drainage report will require that the proposed channel for the 10 ft. drainage easement and the proposed rundowns be approved by the Assistant City Engineer-Design Section.

I would recommend that you coordinate the proposed rundown for the pond with Bohannan/Houston, since they are responsible for the design of the channel that you are proposing to drain into.

Would you also submit to me the Q-100 that you designed the channel for.

If you have any questions regarding these matters, please feel free to contact me at your earliest convenience.

Very truly yours,

Fred Aguirre Civil Engineer

lc



CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE ALBUQUERTJUE, NEW MEXICO 87106 (505) 265-4276

Feburary 12, 1980

Mr. Bruno Conegliano
Assistant City Engineer/ Hydrology
City of Albuquerque
Box 1293
Albuquerque, New Mexico 87103

Re: Addendum to drainage plan, Block 30 B, Brentwood Hills

Dear Bruno,

Inclosed are revised drawings of the drainage Plan for the referenced project, and new drawings of the Drainage Easement Channel Lining. These drawings incorporate changes and additions verbally requested by you.

Ray I Herrison

RECEIVED

FEB 1 3 1980

CITY ENGINEER

## Brentwood Hills

- 1. A formal drainage report should be submitted. In this report a description of the property should be given as to the existing conditions, the existing runoff, how the property drains currently and if there are any offsite drainage to contend with. The future condition should be discussed as to how the property is to be developed, how much runoff is to be expected, how arrived at and more detail as to how it will be treated.
- 2. On the plan submitted the Piedra Sisa Channel should be noted as such.
- 3. How is the water being channeled to the pond? Faint contours on the plan (if proposed) indicate that it might flow down the street/parking area. However the drawing for the "retaining wall?" indicates the fill behind them are flat and the water might just as well run over the sides of the property and never reach the proposed pond.

  Also should show delail for 12" drain under steps as shown.

4. R/W's for I lenwood Hallo South Channel and Piedra Lisa Channel need to be shown as indicated

1

- 5. What is the required capacity of the pond? Does the pond meet the required? How much is to overflow the wall and has the erosion around the contact of the nappe been accounted for? Cannot verify capacity of pond as shown on plan because runoff expected is not shown. What is the flow through the 3" drain and will it detain the runoff for 24 hrs.
- 6. Will the flow on the runout be 5" or less with overflow over the wall? If not las the erosion along the edges been considered and how will it be treated?
- 7. What about the utility easements shown in the ponding area, has the location afthe pordbeen cleared with the parties concerned?
  - 8. What about maintenace? Will the owner be responsible for this?

- 9. What about area between Eric Court ME. and the street/parking area, will the flow be allowed to just run over the proposed wall? Same applies for the area south of the 10' north side channel.
- 10. Are all the floor elevations above the 100 year flood elevation for both the & lenwood Hills and the Pudra fise channels?

Billy Loolsby



CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE ALBUGUERQUE, NEW MEXICO 87106 (505) 265-4276

RECEIVED

November 15, 1979

NOV 1 5 1979

CITY ENGINEER

Mr. Bruno Conegliano, Assistant City Engineer-Hudrology City of Albuquerque Box 1293 Albuquerque, New Mexico 87103

Re: Drainage Plan, Block 30 B, Brentwood Hills Subdivision (2801 Nakomis)

Dear Mr Conegliano,

Forwarded for your review is the Drainage Plan for the referenced project. The construction plans for this project are in the Building & Inspection Department for Review.

Rey L. Harrison

Brentwood Hills Subdivision (H22-D4) D'move 10 fe run down to center on invoted come @ Correct North Arrow on Steet of (top-conter) 3 Address Slope on Picdra Lisa Channel. Will water steep in 10 Channel When war ped to week field a Lisa? (4) Low does water get to New 5' Run down in Glemand Hills South Channel? (5) Grading Plan needs to Show The's afective fourts and Show positive Stope away from Builtip!

Block 30 13 , Brentwood Hills 1) Drainage casements 3 sides! 2) should the concrete remont be provided with a Citoff wall 3) 15 AMAF. CA approval & in spection i ceden on the renort 4) port of the ponding once is in the whility casement, is this allowable



CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE ALBUQUFRQUE, NEW MEXICO 87106 (505) 265-4276

#### DRAINAGE PLAN

#### BLOCK 30 B, BRENTWOOD HILLS SUBDIVISION

Block 50 B will be developed as three story townhouse apartments. It is adjacent to the confluence of the Piedra Lisa and Glenwood Hills South Drainage Channels.

The grading of the lot will divert all the drainage into the pond at the west end of the lot. Ponding balance will be obtained by overflowing the excess of the design capacity of the pond into the Glenwood Hills South Channel on a concrete runout. The pond will be compacted to hold the drainage and a pipe and orifice installed to drain the pond in twenty four hours. This design will eliminate any chance of damage to the concrete lining of the adjacent channels.

The 10 foot drainage easement at the North edge of the property will be sodded and maintained as agreed on in the Tract D Block 29 B Drainage plan. A concrete runout is designed into the channel at this point.

The drawings for the future lining of the Piedra Lisa and Glenn Hills South Channels are attachen for your information.

The elevation Bench Mark used by Bohannan & Huston for the design of the channel lining differed by .03 foot from the elevation Bench Mark set by my Company so the elevations of the two projects are well coordinated.

Ray L. Harrison



#### CALCULATIONS

DRAINAGE PLAN, BLOCK 30 B Brentwood Hills Subdivision 2801 Nakomis NE

 ${\bf Q}_5$  discharge to Glennwood Hills North Arroyo Design  ${\bf Q}$ 

Area = 2 acres  $\pm$  C = .4 (undeveloped) I = .47 (10 min duration, 5 year storm X 60/10 = 2.82 "/hr.

 $Q = 2.82 \times 2 \times .4 = 2.25 \text{ CFS}$ 

Orifice design Ref. "Kings Handbook of Hydraulics"

Standard shoet tube C =0.82

Average head h = (1.5 - 0)/2 = 0.75 feet

 $Q = Ca \sqrt{2gh} = .395 \text{ sq. ft.} = 8.5" Dia$ 

Nearest standard pipe size is 8"

Q = 2 CFS @ .75 Head Q = 2.82 @ 1,5 h





1517-A GIRARD BLVD. NE ALBUQUERQUE, NEW MEXICO 87106 (505) 265-4276

DRAINAGE REPORT

REPLAT OF BLOCK 30B

BRENTWOOD HILLS

SUNSHINE TOWNHOUSES

Block 30B, Brentwood Hills is located at the confluence of the Piedra Lisa and Glenwood Hills South Channels in the far Northeast Heights. These drainage channels are concrete lined adjacent to this property.

Criteria - Criteria was developed at a predesign conference as follows: Drainage can flow into the drainage channels on a concrete rundown with no ponding required, Eric Court will be drained through inlets and a drainage pipe system to the Glenwood Hills South Channel in the existing drainage easement.

Modification of the criteria is requested to allow a concrete channel to carry the Eric Court drainage instead of an underground drainage system.

Planning History - This report is for the approval by the DPM of the Replat of Block 30B, Brentwood Hills into 13 townhouse lots.

Flood Hazard - This tract is not a part of the Master Drainage Sturdy is not in a flood hazard area as shown by the Flood Hazard Boundry Map. Delineation on an ortho photo topo map attached.

Watershed soils - Watershed soils not applicable because watershed area is developed and 90% imprevious. The site being developed will be filled which will change its soil classification.

Erosion Control Plan - The existing soil is SCS hydro type B (Emb). There are no erosion control problems at present. The grading plans requires the filling of most of the tract which will change the soil classification to hydro group A which the good resistance to erosion and lower land slopes will also contribute. The land presently drain as sheet flow into the channels, the developed 1963 drainage will be diverted into the channels over concrete rundowns.

### OFF-SITE CONDITIONS

Watershed Area - Deineation of contributung watershed on attached ortho photo topo map.

Storm Flow - Area = 2 acres 90% imprevious Soil hydro group B C = .86

Peak 100 yr I, Tc = 10 min, I = 2.5 X 2.3 \* 5.75 "/hr

peak 10 yr. I, Tc = 10 min. I = 5.75 X .445 = 2.6"/hr

 $Q_{100} = .86 \text{ X } 5.75 \text{ X } 2 = 9.9 \text{ GFS}$ 

 $Q_{10} = .85 \times 2.6 \times 2 = 4,47 \text{ CFS}$ 100 yr 6 hr Q = .86 X 2.5 X2 = 4.3 CFS10 yr 6 hr Q = .86 X 1.11 X 2 = 1.9 CFS

Other Conditions - There are no other conditions discernible that will affect off-site draina a.

Proposed Treatment - The off-site drainge will drained from the end (low point) of Eric Court through a concrete channel to the Glennwood Hills South Channel in an existing easement to an existing rundown. Maintenance of this channel will be by owners of the subdivision lot through covenants.

Easement - The easement to accomplish the above is existing.

Flow Depth and Velocity - The Eric Court drainage will enter the drainage channel through a V shaped wing wall design, 8 feet wide and 1 food deep. Using the weir formula to check the entrance at  $h=.67^{\circ}$  (curb height)

 $O = CLh^{3/2}$  C = 2.5 (K&B) L - 8 ft. h = .67 ft.

Q = 10.9 CFS (peak off-site flow 9.9 CFS)

The charmel that carrys the runoff to the Glenwood Hills South Channel rundown will be 3.75 feet wide i.O feet deep. A check of capicity running half full h = 0.5 feet

s = 2% n = .017 D/b = .13 K' = .0525 (K&B)  $Q = \frac{K' \ b^{8/3} \dot{s}^{\frac{1}{3}}}{2} = 11.8$  CFS peak flow 9.9 CF = 11.8 CFS peak flow 9,9 CFS

Running full h = 1.0 Q = 33,0 CFS

#### ON-SITE CONDITIONS

Flow Volumes and Rates - Area = 1.6 Acres
Undeveloped peak I = 5.75 "/hr 6 h = 2.5 "/hr,
Soil Hydro groupB 0% imprevious
C = .34

Peak flow Q =  $.34 \times 5.75 \times 1.6 = 3.1$ ° CFS 6 hr flow Q =  $.34 \times 2.5 \times 1.6 = 1.36$  CFS

Developed 100 yr peak and 100 yr 6 hr Soil group A

 $\frac{44,880}{69,700}$  sq. ft paved = 64% imprevious C = .52

Q = .52 X 5.75 X 1.6 = 4.8 CFS (100yr peak)Q = .52 X 2.4 X 1.6 = 2.08 CFS (100 yr 6 hr)

Flow Depth and Velocity - The undeveloped flow is sheet flow into the channel so the depth and velocity cannot be determined.

The developed flow will be concentrated at the rundown.

Rundown design s = 10% L =10ft. V shaped 10:1 side slope n = .017 e = 5' D = 0.5'  $\frac{7}{3}$  e/D = 10 x = 0 K = 9.33 (K&B) Capacity Q =  $\frac{\text{KD}^{8/3}}{\text{n}}$  = 27.5 CFS (peak flow 4.8 CFS)

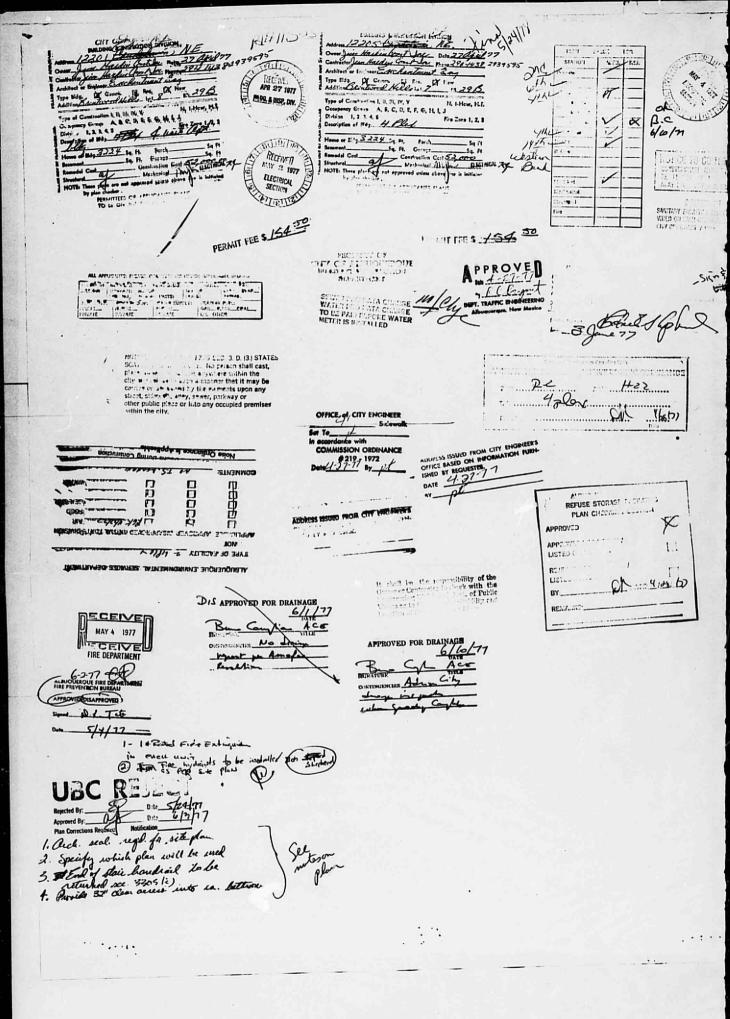
Verification of adequacy of down stream conditions-Adequate capacity of down stream conditions verified in predesign conference.

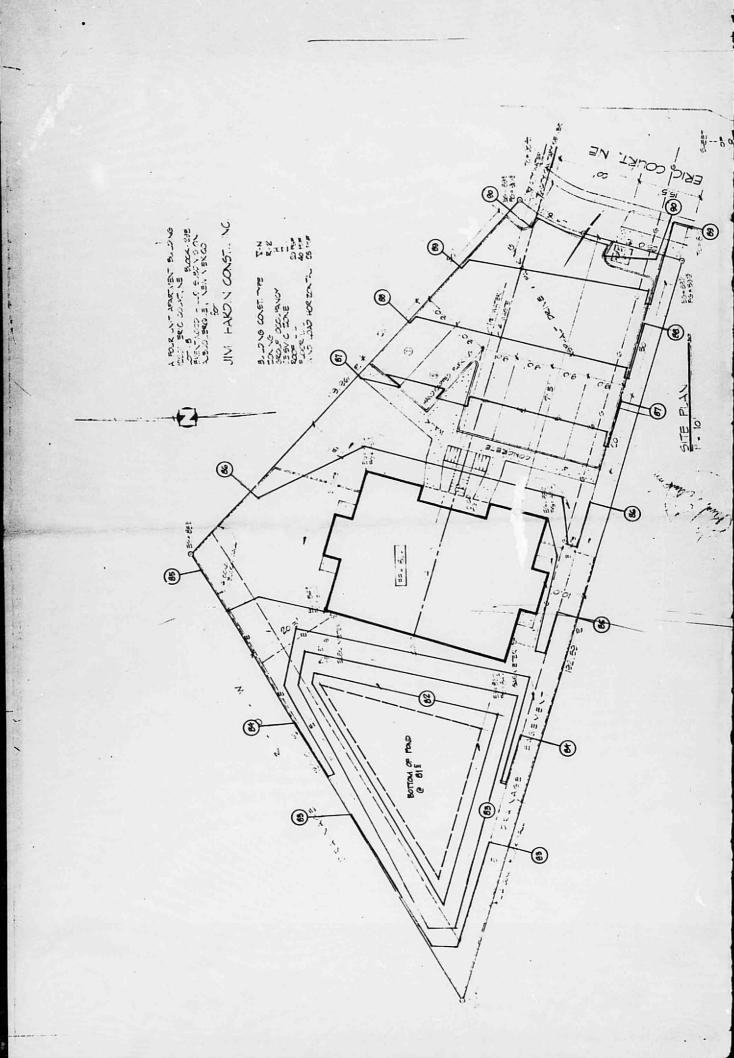
Easements shown on plat.

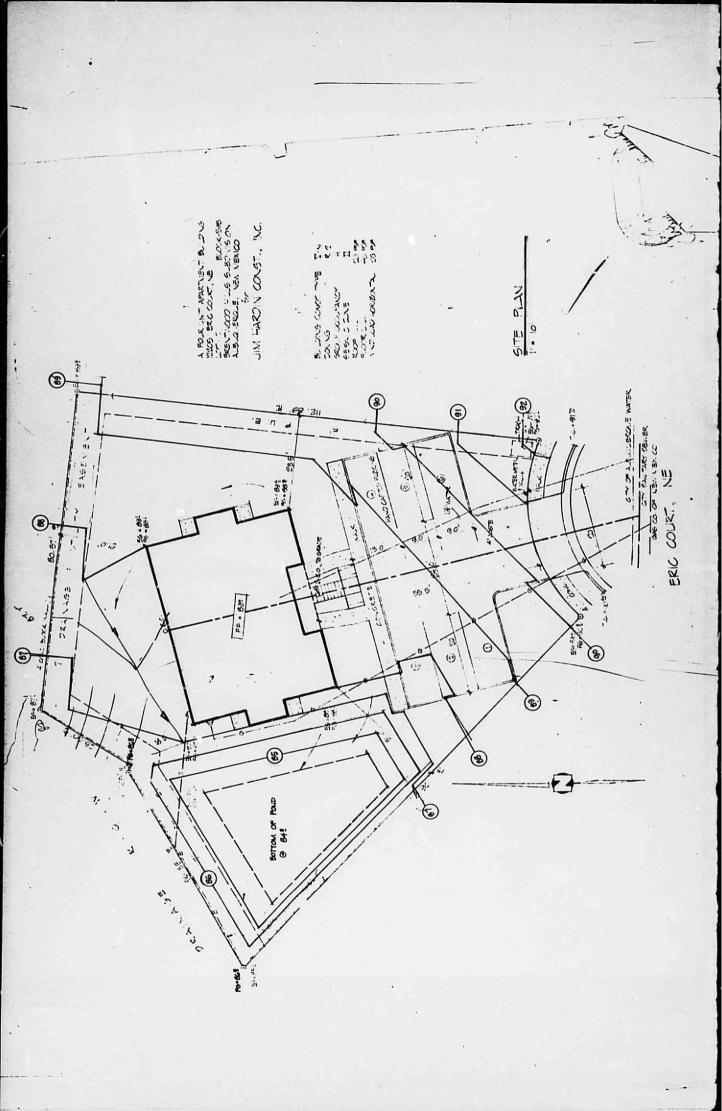
Nuisance Waters - Landscaped area will have borders to contain nuisance waters.

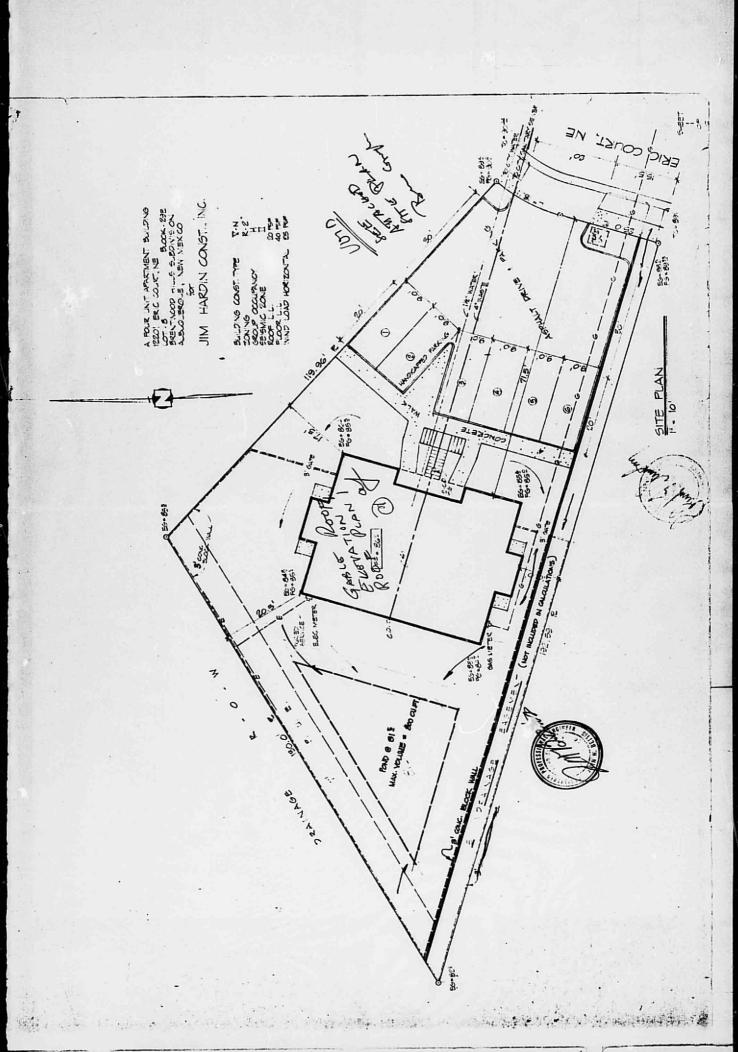
Ray I Harrison

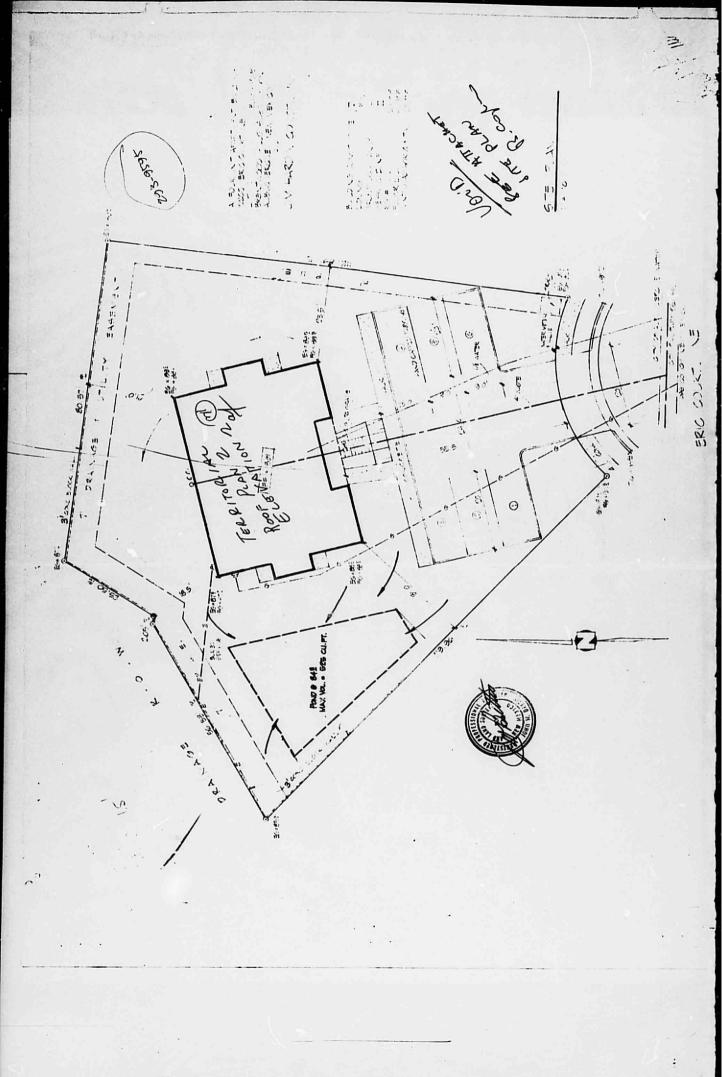












NGINEERING INC.

# PRAINAGE CALCULATIONS

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### POND CROSSECTION

142135



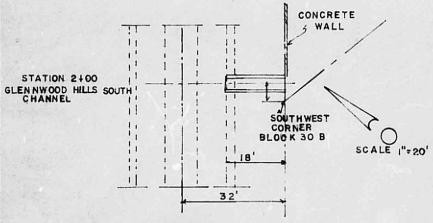
MIS SECRETARY IS THE WEST POSSIBLE REPRODUCTION OF THE POOR QUALITY OF THE ORIGINAL BOCKNESS

# CITY OF ALBUQUERQUE DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY CANDELERIA SCAL E 1 = 400 TBM SOUTH BONNET BOLT OF FIRE HYDRANT 0 LOCATION PLAN H 22 OWNER Engineer JOSEPH SANTANGELO Ray Harrison & Associates 1517 A Girard Blvd. NE 257 Juan Tabo Blvd. NE Albuquerque, NM 87123 Ph 296 3188 Albuquerque, NM 87106 Ph 265 4276 RECEIVED JUN 0 6 1983 **ENGINEERING** NOTICE TO CONTRACTOR An excavation/construction permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit. 2. All work detailed on these plans to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with "Contract Documents for City-Wide Utilities and Cash Paving No. 31" Two working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for location of existing utilities. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay. 5. Backfill compaction shall be according to RESIDENTIAL street use. TITLE: RUNDOWNS BLOCK30BBRENTWOOD HILLS APPROVALS NAME DATE A.C.E./DESIGN 2801 NAKOMIS NE INSPECTOR PERMIT NO. MAP NO. H 22 HEET | OF 4 "E. / FIELD

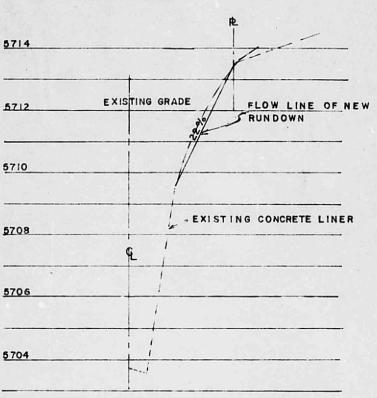
# CITY OF ALBUQUERQUE DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY SOUTHWEST CORNER BLOCK 30B SCALE 1"= 20 STATION 72+67.2 PIEDRA LISA CHANNEL A CONC. GUTTER 60' STREET 10 ' RUNDOWN PIEDRA LISA CHANNEL 5718 EXISTING GRADE 5716 5714 5712 EXISTING CONCRETE LINER 5710 5708 **APPROVALS** NAME TITLE: 10' RUNDOWN DATE BLOCK 30 B BRENTWOOD HILLS A.C.E./DESIGN INSPECTOR 2801 NAKOMIS PERMIT NO. MAP NO. H 22 ACE. / FIELD 4 SHEET 2 OF

# CITY OF ALBUQUERQUE

### DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



5' RUNDOWN GLENNWOOD HILLS SOUTH CHANNEL

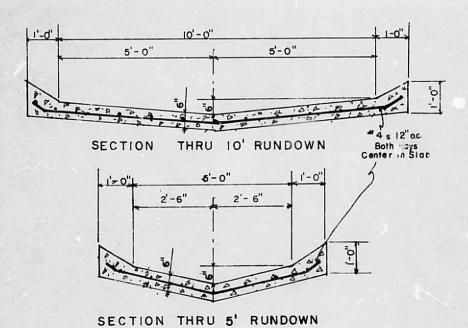


APPROVALS	NAME	DATE	TITLE: 5' RUNDOWN	W000 111516
A.C.E./DESIGN			BLOCK 30B BRENT	NAKOMIS NE
INSPECTOR			PERMITNO	
A.C.E. / FIELD			SHEET 3 OF 4	MAP NO. H 2 2

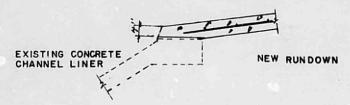
# CITY OF ALBUQUERQUE

# DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

TANGE TRANS



KEYED CONTRACTION JOINTS 20 OC. ALTERNATE WITH EXPANSION JOINTS 20 OC



TYPICAL TIE IN DETAIL RUNDOWN TO EXISTING CHANNEL LINER

SCALE 1/2"= 1'-0"

APPROVALS	NAME	DATE	TITLE: RU			
A.C.E./DESIGN			BLOCK	30 B		WOOD HILLS
INSPECTOR			PERMIT NO.		2801 NA	IMAP
ACE. / FIELD		14	SHEET 4	OF '	4	NO. H 22

# 83 56381 REAL PROPERTY ENCROACHMENT AGREEMENT

THIS AGREEMENT made this 2 day of Lune, 19 by and between the City of Albuquarque, a New Mexico municipal corporation, (City) and 15. Sept Surfame (Uset).

#### RECITAL

The User is the Owner of certain real property located at 2801 Nakomis Dr., N.E. in Albuquerque, New Mexico, and more particularly described as follows:

Block 30B, Brentwood Hills Subdivision, Albuquerque, Bernalillo County, New Mexico, as the same is shown and designated on Plat filed in the Office of the Bernalillo County Clerk on June 24, 1977.

The City is the owner of certain real property, easement, or public right-of-way adjoining or abutting the above described property of the User. The User wishes to encroach upon the City's property by constructing an improvement thereon or has already encroached upon the City property as follows:

Road and Utility Easement Encroachment and Fill

A sketch of the proposed or existing improvement is attached hereto and made a part of this Agreement.

The City is agreeable to the encroachment of said improvement provided that the User comply with the provisions and covenants contained herein.

NOW THEREFORE, in consideration of the mutual covenants contained herein, it is agreed by and between the City and User that the User may construct and/or maintain, at his own expense, the improvement described herein.

#### RESPONSIBILITY

The User shall be responsible for the construction and/or maintenance of said improvement and it shall conform to all laws and ordinances and administrative regulations applicable thereto. Said improvement shall not constitute a hazard to the health or safety of the general public and shall not interfere with the City's use of the propety.

### INDEMNIFICATION AND HOLD HARMLESS

The User shall agree to defend, indemnify, and hold harmless, the City, its officials, agents and employees from and against any and all claims, actions, suits or proceedings of any kind brought against said parties for or on account of any matter arising from the encroachment by the User or the User's failure to maintain, modify, or remove the encroachment under this Agreement.

RECEIVED

JUN 0 6 1983

**ENGINEERING** 

### REMOVAL

The User shall remove, modify, maintain, or cause same to be done and cause the premises to be returned to its original condition within after receipt of written

Notice from the City. Notice shall be considered to have been received within six days after the notice is mailed if there is no actual evidence of receipt. In the event the User shall fail to comply with the Notice after the receipt of same, the City may undertake the project, at the expense of the User, and enter upon the property of the User as may be necessary to do so. The City shall assess the charge for same and any other expenses and damages arising therefrom to the User and file a lien therefore on the real property of the User.

#### LIABILITY

The City shall not be liable for any damages to the User's property or the improvement that may result from the maintenance, removal or any modification of the improvement.

### NOTICE

The written notice provided for herein shall be accomplished by mailing same to:

The User may change said address by giving written notice, certified mail, return receipt requested, to the City Engineer, at 400 Marquette, N.W., Albuquerque, New Mexico 87102.

### COVENANT RUNNING WITH THE PROPERTY

The obligation of the User set forth herein shall be binding upon the User, his heirs, and assigns, and the property of the User as described herein and will rum with said property until released by the City.

USE

CITY OF ALBUQUERQUE

REVIEWED BY THE LEGAL DEPARTMENT

ssistant City Attorney

-2-

1.

### ACKNOWLEDGEMENTS

The foregoing instrument Joseph Santangelo, on	n this 18th day of April , 198
	u
	Mina Seeley
u a dada Residen	
My Commission Expires:	OFFICIAL SEAL' GINA SEELEY
3-12-84	MOTARY PUBLIC - NEW MEXICO MOTARY PUBLIC - NEW MEXICO Nothry Bould Haid Aith Secretary of State Nothry Bould Haid Aith Secretary
	My Commission Expires 3-12-84
	C. FILLY
STATE OF NEW MEXICO )	
COUNTY OF BERNALILLO )	
The foregoing instrument	t was acknowledged before me on this 24# day
	Frank a. Kleinheng, Chief
Administrative Officer, of the C	ity of Albuquerque, municipal corporation, on
behalf of said corporation.	0.01
	Jola L. Shant
A 14 ( )	Notary Public
4.14.5	Notary Public
My Commission Expires:	Notary Public

STATE OF NEW MEXICO COUNTY OF EERNALILLO FILED FOR RECORD

BY HOA 816-819
DOLORES C. WALLER
CO. D. W. & REVERDER
DEPUTY
DEPUTY