

March 13, 1981

To Whom It May Concern:

As owner of tract B-2 and Lot 3 Metz-Robertson Addn., Block 2, property adjacent to the South of Pat - Lily Sub-division, I hereby grant and permit Developer to perform all necessary grading to meet City of Albuquerque Drainage Requirements.

Van Barber
VAN BARBER

ACKNOWLEDGMENT FOR NATURAL PERSONS

STATE OF NEW MEXICO)
)ss
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 14th day
of March, 1981 by Van Barber

My commission expires: June 17, 1984
(Seal) Mary La. Melin
Notary Public

RECEIVED
MAR 17 1981
CITY ENGINEER



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 12, 1981

Mr. John Bettis
Enchantment Engineering
1517 Eubank Blvd. N.E.
Albuquerque, New Mexico 87111

Re: Patlilly Subdivision Drainage Report

Dear Mr. Bettis:

I have reviewed the drainage report for the Patlilly Subdivision and I can't grant approval because of the following considerations:

1. Lot 16, adjacent to Avalon Road and north of the referenced subdivision is included on the plat to be approved; yet, in the report there is no discussion of the proposed use of this lot nor of the method of handling the runoff generated.
2. Even though the report recognizes the existence of offsite flow, generated by the 2.31 Ac. immediately to the west of this subdivision, no indication is furnished on how the runoff from this land will be handled. The only indication supplied consists of an arrow on Exhibit 3 showing a diversion of the offsite flow around the subdivision and onto the depression to the south. Exhibit 2 shows unequivocally that the runoff generated by the 2.31 Ac. west of this property enters Patlilly Subdivision; this condition must be preserved.
3. The drainage report makes the recommendation that the entrance drive and cul-de-sac be elevated some 4.0 ft. above the existing natural ground so that the run off from said drive can be routed to 60th St. I cannot concur with this recommendation due to the following:
 - a. Due to the existence of the depression to the south of this parcel, no runoff is contributed to 60th. Street.
 - b. The existing drop inlets, constructed to provide an outfall to the sump in 60th St., are connected to the storm sewer in Central Ave.; this system is inadequate, and whenever a severe storm occurs, the runoff overloads the inlets and overflows the public right-of-way, flooding the property east of 60th St. In view of this condition I cannot consent to

MUNICIPAL DEVELOPMENT DEPARTMENT

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

ENGINEERING DIVISION

Telephone (505) 766-7467

Mr. John Bellis
January 12, 1981
Page Two

any proposed development that would worsen already inadequate conditions.

Two additional concerns are here noted:

1. Extensive cut and fill would be required to comply with the proposed grading plan. Consequently, it would be very difficult to preserve the infiltration capabilities, determined by the Soil Testing Laboratory.

2. The roadway into the subdivision is shown to have an adverse super-elevation; this condition is not acceptable.

In view of the above, my recommendations and requirements are as follows:

1. Indicate what type of development is planned for Lot 16 and how will the run off be handled.

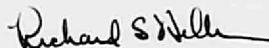
2. Preserve to the greatest possible extent the existing ground configuration, allowing the offsite runoff to enter this parcel as it occurs today.

3. Provide both minimum grading and sodding on all the lots after construction of the residences but before sale of the individual town-houses (this requirement is given to insure that the existing infiltration characteristics will be preserved).

4. Provide some infiltration or retention area to collect all the runoff generated by the roadway and disperse this runoff into the ground. The recently published manual "Modern Sewer Design", issued by the American Iron and Steel Institute, can furnish ideas and method on how this recommendation can be implemented.

If you desire to discuss this matter further, please don't hesitate to come to my office.

Very truly yours,



Richard S. Heller
City Engineer

RSH/fs

cc - Richard Leonard
Bruno Conegliano
Drainage File

LOT 16 PAT LILLY



LOCATION MAP K-11

NOTICE TO CONTRACTORS

1. New Mexico Standard Specifications for Public Works Construction-1979 Edition will be referred to hereon as the "Standard Specification".
2. All work detailed on these plans to be performed under contract shall, except as otherwise stated or provided for hereon, be constructed in accordance with "Contract Documents for City-Wide Utilities and Cash Paving No. 20" and the Standard Specification.
3. Two working days prior to any excavation, contractor must contact Line Locating Service, 755-1234, for location of existing utilities.
4. 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 or surveyor so that the conflict can be resolved with a minimum amount of delay.

THE FOLLOWING NOTES ALSO APPLY WHEN CHECKED

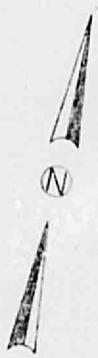
- All utilities and utility service lines shall be installed prior to paving.
- Backfill compaction shall be according to specified street use. Residential
- Tack coat requirements shall be determined by the City Engineer.
- Sidewalks and wheelchair ramps within the curb returns shall be constructed wherever a new curb return is constructed.
- If curb is depressed for a drivepad, the drivepad shall be constructed prior to acceptance of curb and gutter.
- All storm drainage facilities shall be completed prior to final acceptance.
- The requestor or developer shall be responsible for repair or replacement of all curb and gutter or sidewalk damaged after approval by the City Engineer of work completed by the Contractor.

APPROVED FOR RECORD DRAWINGS		APPROVED FOR CONSTRUCTION	
AGG. CITY ENGINEER, FIELD	DATE	CITY ENGINEER	DATE
CITY OF ALBUQUERQUE			
APPROVALS	ENGINEER	DATE	TITLE:
A.C.E. DESIGN	<i>J.R. Redick</i>	16 Feb 82	DRAIN LINE THROUGH CURB
WATCH RESOURCES INSPECTOR			6094 AVALON RD. N.W.
CITY ENGINEER ACE FIELD			PROJECT <i>Permit No.</i>
			MAP NO. K-11
			SHEET 1 OF 2

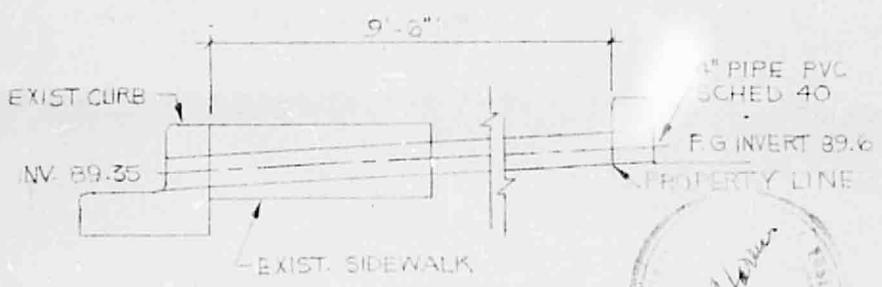
AVALON RD. NW. 35' T/C 89.98
 FL 89.31
 INV. 89.35

INSTALL 1-4" PIPE
 PER CITY DWG
 K-15 PVC SCHED 40

LOT 16 PAT LILLY
 SUBDIVISION



SCALE: 1" = 30'-0"



PIPE DETAIL
 SCALE: 1" = 1'-0"

Owner
 J. Roy Esquivel
 6985 Isleta Blvd. SW
 Albuquerque, NM 87105

Engineer
 Ray Harrison & Assoc.
 1517 A Girard NE
 Albuquerque, NM 87106



CITY OF ALBUQUERQUE

APPROVALS	ENGINEER	DATE	TITLE:
A.C.E./DESIGN	<i>[Signature]</i>	16 Feb 82	DRAIN LINE THROUGH CURB
INSPECTOR			6094 AVALON RD. NW.
A.C.E./FIELD			Project: Permit No.
			MAP NO. K-11

DRAINAGE REPORT

PATLILLY SUBDIVISION

November 12, 1980

RECEIVED

NOV 14 1980

CITY ENGINEER

DRAINAGE REPORT

PATLILLY SUBDIVISION
(A Townhouse Development)

November 12, 1980

PREPARED BY

ENCHANTMENT ENGINEERING
1517 Subank Blvd., NE
Albuquerque, New Mexico 87111

The following report consists of a narrative of both existing and proposed conditions together with the necessary computations for determining and recommending runoff control within a tract of land to be called the PATLILLY SUBDIVISION.

LOCATION

The proposed development is located in the Northwest Quadrant of the city. It lies to the west of 60th Street between Central Avenue West and Avalon Road NW. (See Vicinity Map)

TERRAIN

The proposed development site slopes from north to south at a rate of 2 1/2 to 3 per cent. Soil is silty to slightly clayey sand (SM-SC). Vegetation is limited to common weeds. Two small buildings exist on the site. There is no landscaping around them and the area immediately surrounding them is devoid of any vegetation. Both buildings are to be removed before any grading commences. This development site does not lie adjacent to any dedicated drainage easements or rights-of-way nor do any discernable flow lines cross it. With consideration being given to the existing vegetation and slope characteristics, infiltration may be assumed to be about one inch per hour. However, the soil is capable of percolation at a higher rate if the slope is reduced. (See ATL percolation tests included)

PROPOSED DEVELOPMENT

The general drainage and grading plan included in this report shows the typical layouts of the buildings, drives, walks, walls and street. Walks and drives are to be concrete, the

street will be asphalt and will have roll over curbing, the remainder of the lot areas will be used ~~in their~~ entirely for stormwater retention and shall have non-compacted, sodded ^{OR SEEDS} surfaces.

UPLAND DRAINAGE

Two areas of upland drainage were inspected and are included in this report. The first is the area contributing to flows in Avalon Road. The total area encompassed is 5.15 acres and the average assumed runoff coefficient used is .70 and the derived intensity (from nomograph) is 4.80 in/hr.

$$Q = 5.15 \times .70 \times 4.80 = 17.3 \text{ cfs}$$

Avalon Road was then inspected for potential capacity with the following formula:

$$Q = 0.56 \left(\frac{z}{n}\right) s^{\frac{3}{2}} y \text{ PER EACH CURB}$$

where z is the reciprocal of transverse slope - 30
n is Manning's roughness coefficient - .013
s slope in feet/foot - .003
y depth at deepest point in feet

$$17.3 = 0.56 \left(\frac{30}{.013}\right) .003^{\frac{3}{2}} y$$
$$= 70.78 y$$

$$y = .25 \text{ foot depth at curb when } Q = 17.3 \text{ cfs}$$

Therefore Avalon Road and its tributary area do not contribute to any flows across the proposed development.

The second area inspected obviously contributes to flows entering the site. It lies directly to the west and contains 2.31 acres. It is barren save for a few weeds, has one minor flow line which fans out before flows enter the southwest corner of the development, and has the same type soil. Using a runoff coefficient of .20, the generated rate of discharge from this area is 2.22 cfs. (See map of existing flow routes)

INTERNAL DRAINAGE

Runoff generated within the development will be handled in the following manner: all quantities generated within each of the lots will be 100% contained on those lots; those quantities generated within the street right-of-way will be released onto 60th Street. The elevations given on the general drainage and grading plan illustrate this division of flows and the footing protection that is to be installed during construction. The grades at the front property lines are to be a minimum of .33 foot above the proposed top of curb adjacent to them. Sections on the grading plan show the intended method of containment.

Note on the map of the existing flow routes that most of the flows generated on the site currently discharge into two depressions. The field data collected for this study confirms this. Seven years have elapsed since the date of the orthophoto and the depressions are somewhat differently shaped, but they still act as collection basins for flows generated within the block. The proposed plan will not significantly alter the direction of flows generated to the west of the development nor their eventual routing into the depressions. It will however decrease the overall volume of flows which discharge into them. The overall runoff rate from the site will decrease from 4.47 to 3.54 cfs and the volume will drop from 8576 cuft to 6787 cuft. All flows from the site will now be routed onto 60th Street.

Albuquerque TESTING LABORATORY

SUB SOIL INVESTIGATION - PHYSICAL TESTING - INSPECTION



RESEARCH

832 JEFFERSON ST., N. E.

P. O. BOX 4101

PHONE 255-8916 255-1322

ALBUQUERQUE, NEW MEXICO 87108

Lab No. 5204b

Date October 7, 1980

Report to Patrick Milligan

Submitted By Same & John Bettis Sampled By Leory Gonzales, ATL Representative

Project Information: Van Barber-Metz Robertson Addition, 60th & Avalon Streets

Source of Material Two (2) shallow depth percolation test made on October 3, 1980.

TEST RESULTS

Test Data: The percolation tests were run in accordance with the procedures set forth in the U. S. Department of Health, Education and Welfare, Public Health Service Publication No. 526, "Manual of Septic Tank Practice". The tests were run in 6" \pm diameter holes at a depth of 3 feet beneath the existing ground surface. The holes were allowed to saturate with water prior to running the tests. Test holes were located in the field in accordance with instruction from John Bettis.

Tests Results:

	<u>Test No. 1</u>	<u>Test No. 2</u>
*Percolation Rate	10	4.4

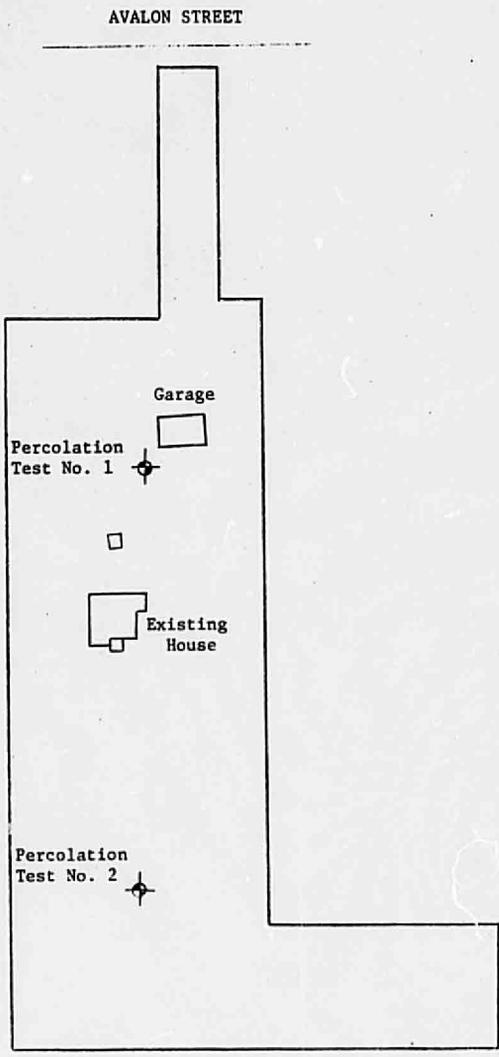
*Time in minutes required for water level to drop one inch, the drop occurring during the final 10 minute time period being used to calculate the percolation rate.

Gradation Tests:

<u>Test No.</u>	<u>Gravel</u>	<u>PERCENT</u>		<u>Unified Soils Classification</u>
		<u>Sand</u>	<u>Silt/Clay</u>	
1. (3' depth)	0	80	20	Silty to slightly clayey sand (SM-SC)
2. (3' depth)	2	83	15	Silty to slightly clayey sand (SM-SC)

Respectfully Submitted,
ALBUQUERQUE TESTING LAB.
Original Signed By

Robert K. Hays
Registered Professional Engineer



TEST LOCATION
Scale: 1" = 100'

UNIFIED SOIL CLASSIFICATION SYSTEM
ASTM: D2487

COARSE-GRAINED SOIL

MORE THAN 50% LARGER THAN 200 SIEVE SIZE

Symbol	Description	Major Divisions
GW	WELL-GRADED GRAVELS OF GRAVEL SAND MIXTURES, LESS THAN 5% - 200 FINES	GRAVELS More than half of coarse fraction is larger than No. 4 sieve size.
GP	POORLY GRADED GRAVELS OR GRAVEL SAND MIXTURES, LESS THAN 5% - 200 FINES	
GM	SILTY GRAVELS, GRAVEL SAND SILT MIXTURES, MORE THAN 12% - 200 FINES	
GC	CLAYEY GRAVELS, GRAVEL SAND CLAY MIXTURES, MORE THAN 12% - 200 FINES	SANDS More than half of coarse fraction is smaller than No. 4 sieve size.
SW	WELL-GRADED SANDS OR GRAVELLY SANDS, LESS THAN 5% - 200 FINES	
SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LESS THAN 5% - 200 FINES	
SM	SILTY SANDS, SAND SILT MIXTURES MORE THAN 12% - 200 FINES	
SC	CLAYEY SANDS, SAND CLAY MIXTURES MORE THAN 12% - 200 FINES	

NOTE - Soils with 5 to 12 percent minus 200 fines should be classified with dual symbols.

FINE-GRAINED SOIL

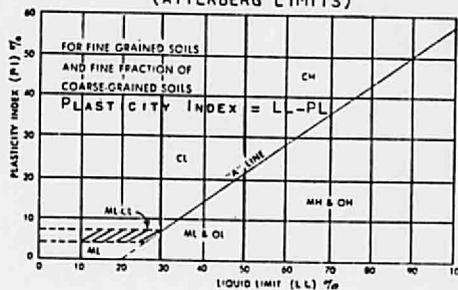
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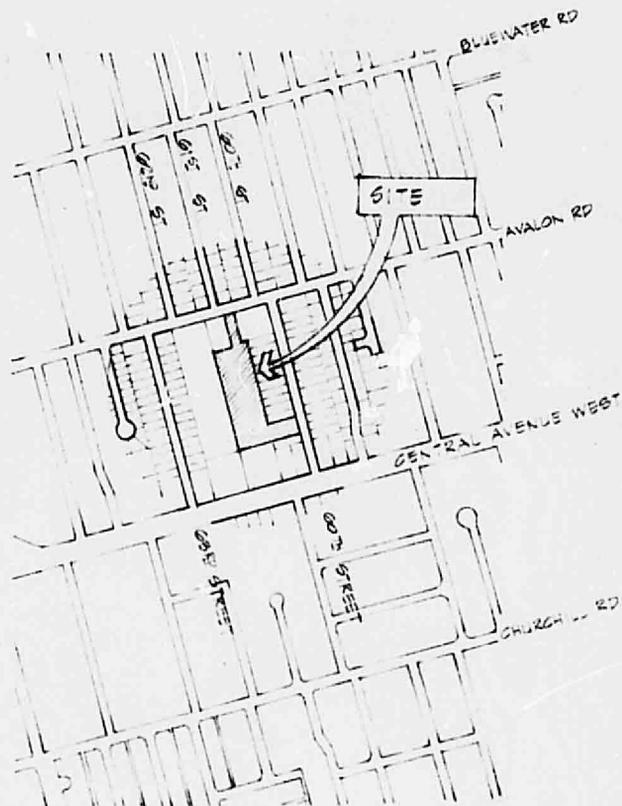
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CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	
OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	

SOIL FRACTIONS

Component	Size Range
Boulders	Above 12 in.
Cobbles	3 in. to 12 in.
Gravel	3 in. to No. 4 sieve
Coarse Gravel	3 in. to 3/8 in.
Fine gravel	3/8 in. to No. 4 sieve
Sand	No. 4 to No. 200
Coarse	C.S. } T ₂₅ No. 4 to No. 10
Medium	M.S. } No. 10 to No. 40
Fine	F.S. } No. 40 to No. 200
Fines (silt & clay)	S/C Below No. 200 sieve

PLASTICITY CHART
(ATTERBERG LIMITS)





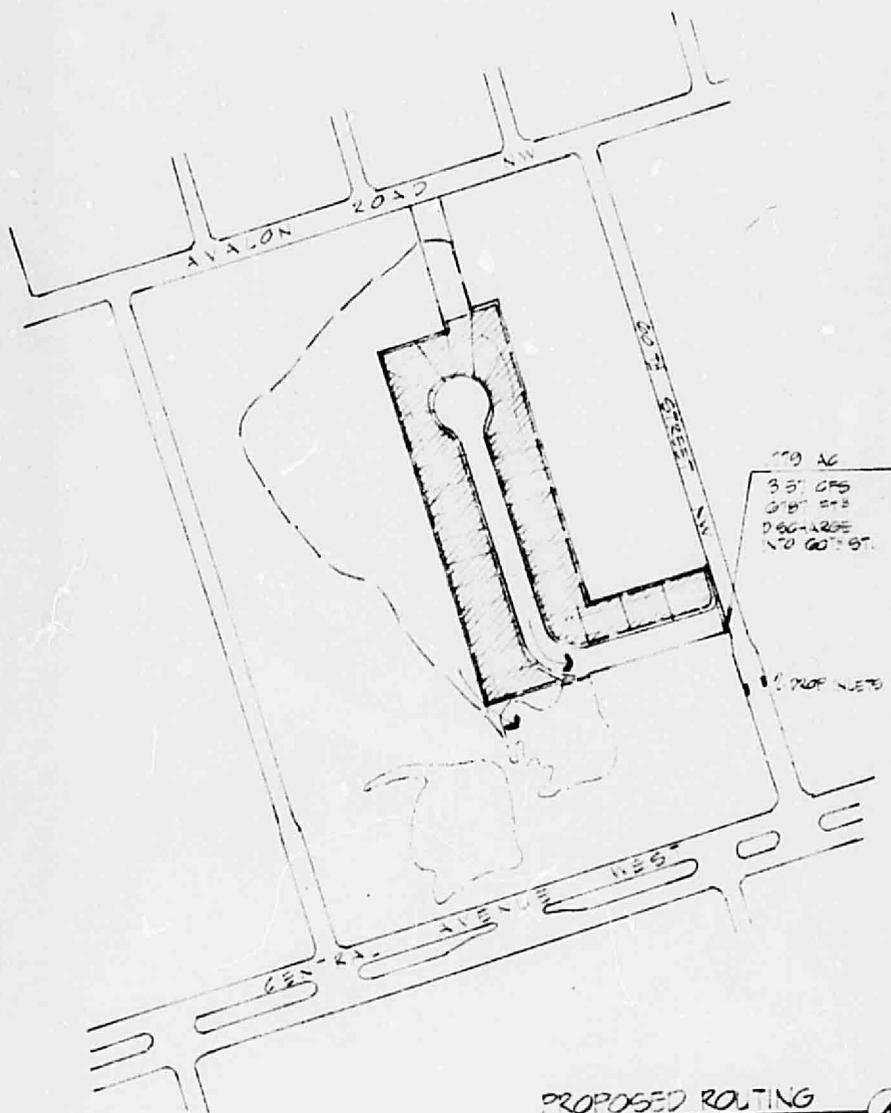
VICINITY MAP

ATLAS INDEX : K - 11



THIS MICROIMAGE IS THE BEST POSSIBLE
REPRODUCTION DUE TO THE POOR QUALITY
OF THE ORIGINAL DOCUMENT





PROPOSED ROUTING

SHADED AREA INDICATES AREAS
WHERE 100% RETENTION OF
RUNOFF OCCURS.

4

DRAINAGE REPORT

PATLILLY SUBDIVISION
(A Townhouse Development)

November 12, 1980

REVISED: MARCH 13, 1981

RECEIVED

MAR 16 1981

CITY ENGINEER

PREPARED BY:

ENCHANTMENT ENGINEERING
1517 Subank Blvd., NE
Albuquerque, New Mexico 87111

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PROPOSED DEVELOPMENT

The general drainage and grading plan included in this report shows the typical layouts of the buildings, drives, walks, walls and street. Walks and drives are to be concrete, the

street will be asphalt and will have roll over curbing, the remainder of the lot areas will be used in their entirety for stormwater retention and shall have non-compacted, sodded surfaces.

UPLAND DRAINAGE

Two areas of upland drainage were inspected and are included in this report. The first is the area contributing to flows in Avalon Road. The total area encompassed is 5.15 acres and the average assumed runoff coefficient used is .70 and the derived intensity (from nomograph) is 4.80 in/hr.

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Avalon Road was then inspected for potential capacity with the following formula:

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where z is the reciprocal of transverse slope - 30
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Therefore Avalon Road and its tributary area do not contribute to any flows across the proposed development.

The second area inspected obviously contributes to flows entering the site. It lies directly to the west and contains 2.31 acres. It is barren save for a few weeds, has one minor flow line which fans out before flows enter the southwest corner of the development, and has the same type soil. Using a runoff coefficient of .20, the generated rate of discharge from this area is 2.22 cfs. (See map of existing flow routes)

INTERNAL DRAINAGE

Runoff generated within the development will be handled in the following manner: Quantities generated within each of the lots will be contained in their entirety on those lots; quantities generated within the street right-of-way will be released into 60th Street. Elevations given on the grading/drainage plan illustrate this division of flows. Grades at the front property lines are to be a minimum of .33 foot above the proposed top of curb adjacent to them. Retention areas created are deliberately spread over as much of each lot as possible in order to take advantage of the relatively high rate of percolation of soils found on site. Excepting necessary slope grading where necessary, the remainder of open area on each lot is to be considered usable retention and shall be graded as level as possible following the elevations given on the plan. Lot 16 will be graded as shown and runoff from it will be gathered in a retention area on the south end of it.

Note on the map of existing flow routings that most of the area potentially drains into two depressions south of the site. Field data collected confirms this. These depressions are man-made, are not intended to serve as retention basins and have altered the original natural direction of flows. Therefore, the re-directing of flows onto 60th Street would be more consistent with the original direction. The overall rate of discharge to 60th Street, with consideration being given to previous grading executed, has been decreased from 4.47 to 3.54 cfs.

Albuquerque TESTING LABORATORY

SUB SOIL INVESTIGATION - PHYSICAL TESTING - INSPECTION



RESEARCH

832 JEFFERSON ST., N. E.

P. O. BOX 4101

PHONE 255-8916 255-1322

ALBUQUERQUE, NEW MEXICO 87106

Lab No. 5204b Date October 7, 1980
 Report to Patrick Milligan
 Submitted By Same & John Bettis Sampled By Leoroy Gonzales, ATL Representative
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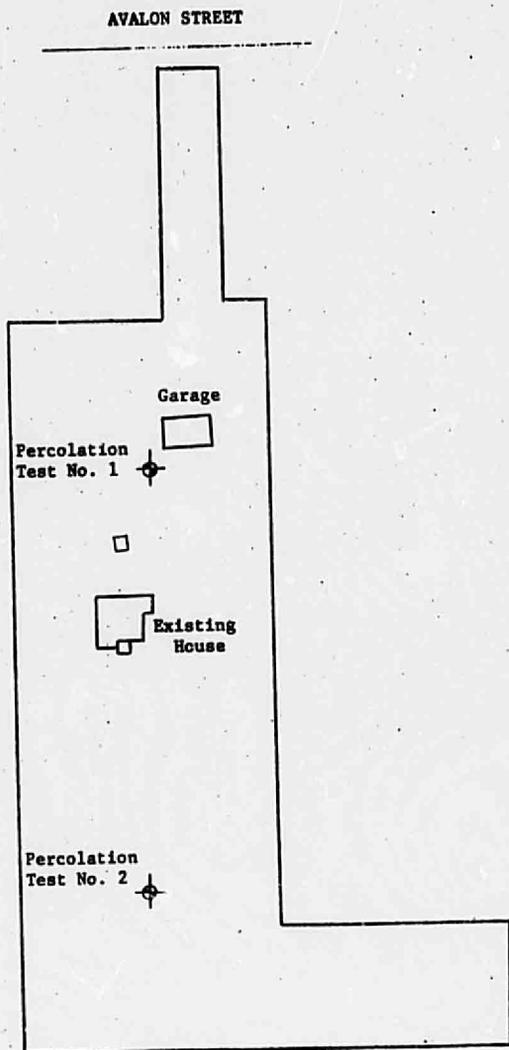
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Respectfully Submitted,
 ALBUQUERQUE TESTING LAB.
 Original Signed By

Robert K. Lloyd
 Registered Professional Engineer



TEST LOCATION

Scale: 1" = 100'

UNIFIED SOIL CLASSIFICATION SYSTEM
ASTM: D2487

COARSE-GRAINED SOIL

MORE THAN 50% LARGER THAN 200 SIEVE SIZE

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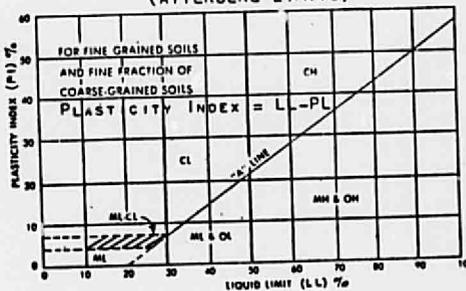
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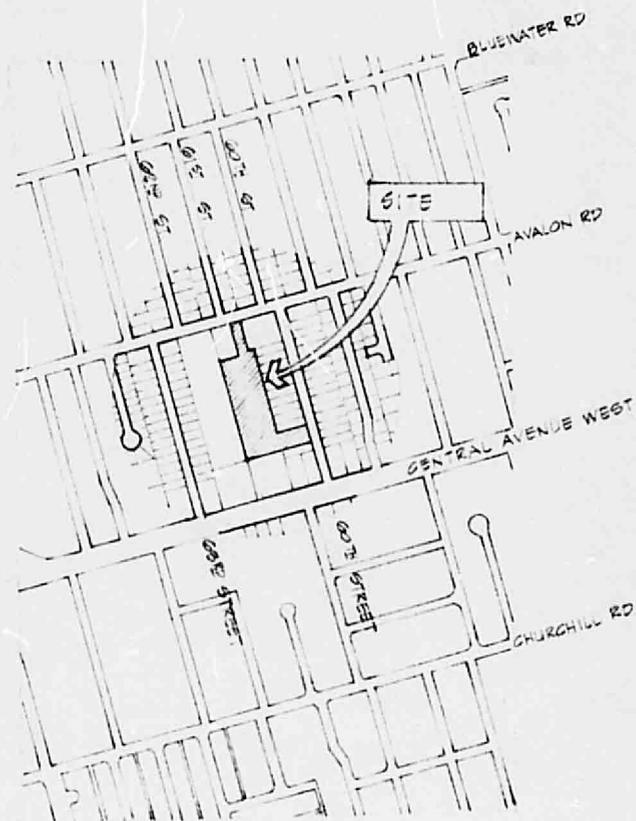
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SOIL FRACTIONS

Component	Size Range
Boulders	Above 12 in.
Cobbles	3 in. to 12 in.
Gravel	3 in. to No. 4 sieve
Coarse Gravel	3 in. to 1/4 in.
Fine gravel	1/4 in. to No. 4 sieve
Sand	No. 4 to No. 200
Coarse	No. 4 to No. 10
Medium	No. 10 to No. 40
Fine	No. 40 to No. 200
Fines (silt or clay)	Below No. 200 sieve

PLASTICITY CHART (ATTERBERG LIMITS)



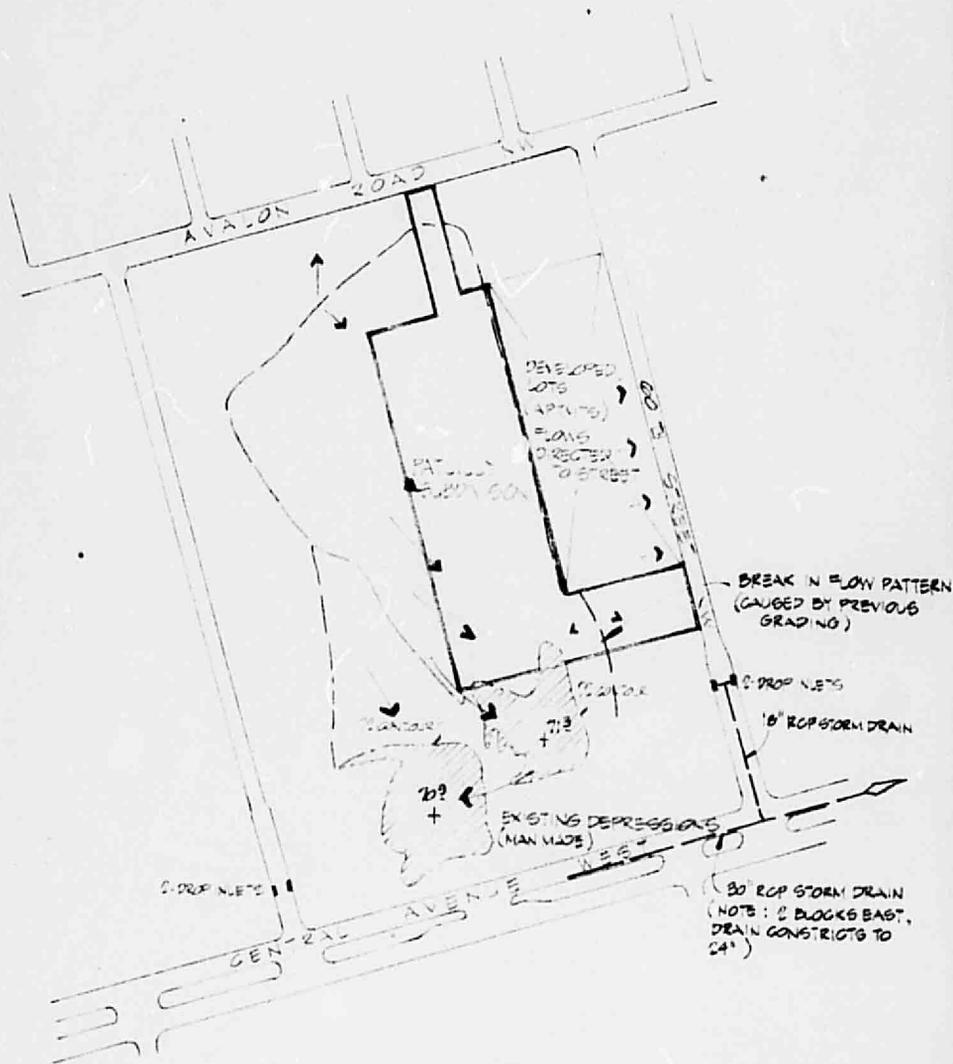


VICINITY MAP

ATLAS INDEX : K-11

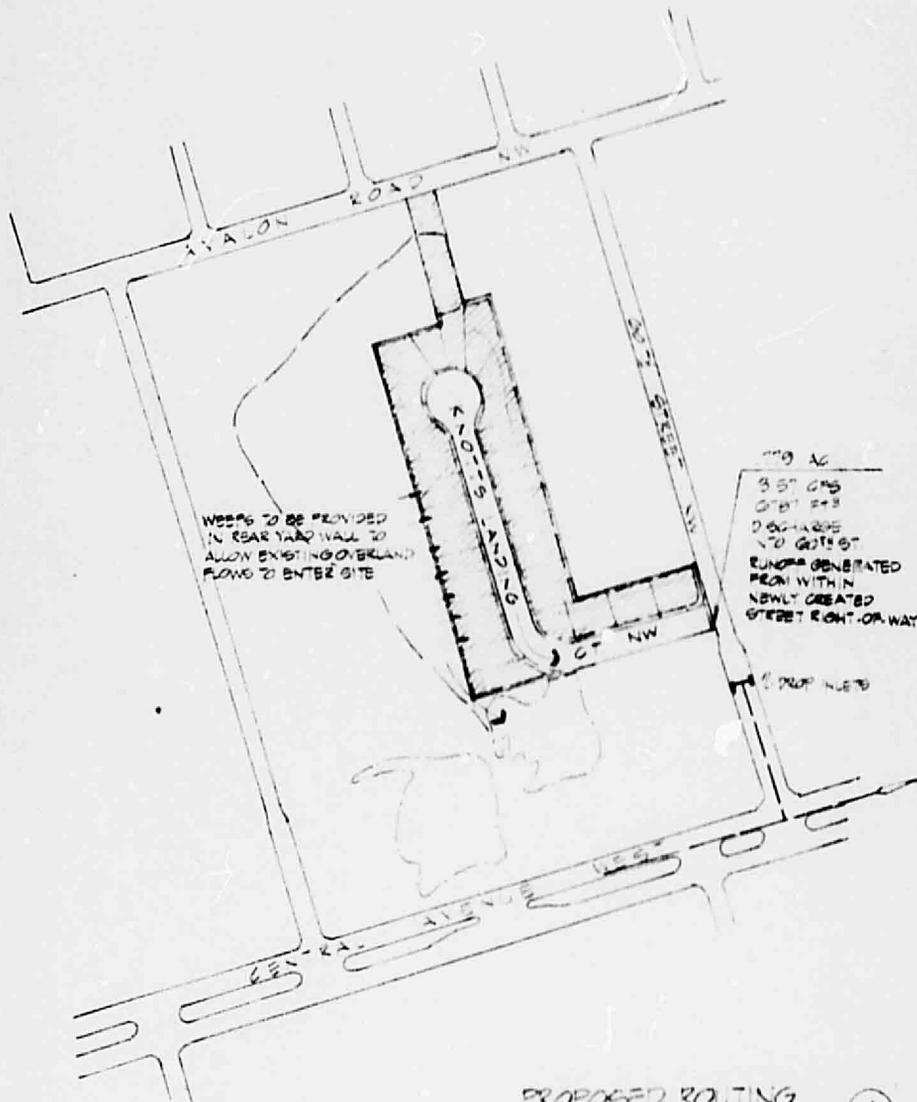






EXISTING FLOW ROUTES (3)

SEE ORTHO-PHOTO SEGMENT INCLUDED



PROPOSED ROUTING

SHADED AREA INDICATES AREAS WHERE 100% RETENTION OF RUNOFF OCCURS

4