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

C17/D02A27 sn Mail

December 20, 2000

Gregory James Krenik, P.E.
Amy L. Driscoll, EIT
D. Mark Goodwin & Associates, P.A.
P.O. Box 90606
Albuquerque, NM 87199

RE: GRADING & DRAINAGE PLAN FOR DESIGN CENTER NORTH, 8801 JEFFERSON, NE (C-17/ D02A26B) ENGINEER'S STAMP DATED OCTOBER 23, 2000, SUBMITTED FOR BUILDING PERMIT AND SO 19 APPROVALS

Dear Mr. Krenik,

Based upon the information provided in your November 2, 2000, submittal, the project, referred to above, is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

In addition, the submittal is approved for an SO 19 permit, which is required for construction within the city right-of-way.

Prior to release of the Certificate of Occupancy, an Engineer's Certification of the grading and drainage plan, per the DPM checklist, and a copy of the grading and drainage plan, with approval sign-off by the City's field inspector for the SO 19, will be required.

If you have any questions, please call me at 924-3988.

Sincerely,

Stuart Reeder, P.E.

Stuart Reeder, P.E.
Hydrology Division

xc: Pam Lujan, Permits w/attachment
Whitney Reierson
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Design Center North ZONE ATLAS#: C-17 D ZAZ6B

DRB#: _____ EPC# _____ WORKORDER#: _____

LEGAL DESCRIPTION: Tract C1-C and C1-D of Elena Gallegos Grant

CITY ADDRESS: 8801 Jefferson NE

ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	Amy Driscoll
ADDRESS:	P.O. Box 90606, Albuquerque, NM 87199	PHONE:	828-2200
OWNER:	Clearbrook Investments	CONTACT:	Scott Henry
ADDRESS:	8908 Adams NE, Albuquerque, NM 87113	PHONE:	858-1800
ARCHITECT:	Schlegel Lewis Architect	CONTACT:	Jim Lewis
ADDRESS:	1620 Central Ave., Albuquerque, NM 87106	PHONE:	247-1529
SURVEYOR:		CONTACT:	
ADDRESS:		PHONE:	
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	

TYPE OF SUBMITTAL:

- ____ DRAINAGE REPORT
- X DRAINAGE PLAN
- ____ CONCEPTUAL GRADING & DRAINAGE PLAN
- X GRADING PLAN
- ____ EROSION CONTROL
- ____ ENGINEER'S CERTIFICATION
- ____ OTHER
- ____ EASEMENT VACATION

RECEIVED 11/2/00

PRE-DESIGN MEETING:

- ____ YES
- X NO
- ____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- ____ SKETCH PLAT APRROVAL
- ____ PRELIMINARY PLAT APRROVAL
- ____ S. DEV. PLAN FOR SUB'D APPROVAL
- ____ S. DEV. PLAN FOR BLDG PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ____ FINAL PLAT APPROVAL
- ____ FOUNDATION PERMIT APPROVAL
- X BUILDING PERMIT APPROVAL
- ____ CERTIFICATION OF OCCUPANCY APPROVAL
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ S.A.D. DRAINAGE REPORT
- ____ DRAINAGE REQUIREMENTS
- X OTHER - SO 19
- ____ RELEASE OF FINANCIAL GUARANTY
- ____ TRAFFIC CIRCULATION LAYOUT

DATE SUBMITTED: 11/1/00

BY: _____

Amy Driscoll

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 24, 2000

D. Mark Goodwin, P.E.
Mark Goodwin & Assoc.
P.O. Box 90606
Albuquerque, NM 87199

C-17/D2A26B

Attn: Amy Driscoll

RE: DESIGN CENTER NORTH (~~C17-D110~~). CONCEPTUAL GRADING AND DRAINAGE PLAN FOR SITE DEVELOPMENT PLAN FOR BUILDING PERMIT, and GRADING AND DRAINAGE PLAN FOR BUILDING PERMIT, AND SO#19 PERMIT APPROVALS. ENGINEER'S STAMP DATED AUGUST 9, 2000. See Also RICHFIELD PARK TRACT C-1 LOT 35 (C17-D2A26).

Dear Mr. Goodwin:

Based on the information provided on your August 9, 2000 submittal and the cross referenced C17-D2A26 submittal of July 21, 1997, the above referenced project is approved for Site Development Plan for Building Permit (confirmation) and for Building Permit, and SO#19 Permit..The Atlas for the Drainage Reports did not show C17-D2A26 as covering the area logged under C17-D110.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

A separate permit is required for construction within the City right-of-way. A copy of this approval letter must be on hand when applying for the excavation permit. Note that the SO#19 Sign-off Block now requires only the Inspector's Signature.

Prior to Certificate of Occupancy approval, an Engineer's Certification per the DPM will be required.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

John P. Murray, P.E.
Hydrology

c: Pam Lujan
Whitney Reierson
File

City of Albuquerque

August 22, 2000

D. Mark Goodwin, P.E.
Mark Goodwin & Assoc.
P.O. Box 90606
Albuquerque, NM 87199

Attn: Amy Driscoll

RE: DESIGN CENTER NORTH (C17-D110). Conceptual GRADING AND DRAINAGE PLAN FOR SITE DEVELOPMENT PLAN FOR BUILDING PERMIT. ENGINEER'S STAMP DATED AUGUST 9, 2000.

Dear Mr. Goodwin:

Based on the information provided on your August 9, 2000 submittal, the above referenced project is approved for Site Development Plan for Building Permit. The Drainage Information Sheet marked both Conceptual G & D Plan and G & D Plan. The "conceptual" plan itself can not be used for the Building Permit proper.

This office does not have a copy of your referenced July 1997 Conceptual G & D Plan on file. It would be appreciated if you would furnish a copy at your earliest convenience. We will then expedite the Building Permit and the So#19 Permit.

Correct Key Note 4. It also should have a 2-foot wide rundown to match the sidewalk culvert. Note that only the Inspector's Signature is now required for sign-off at the completion on construction.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

John P. Murray, P.E.
Hydrology

c: Whitney Reierson
File

ESPEY, HUSTON & ASSOCIATES, INC.

DRAINAGE REPORT FOR
RICHFIELD PARK

Prepared for:

JACK M. CLIFFORD & COMPANY

P. O. Box 35640, Station D

Albuquerque, New Mexico 87176

June 30, 1986

(Revised August 1, 1986)

TABLE OF CONTENTS

LIST OF FIGURES & EXHIBITS

PURPOSE AND SCOPE

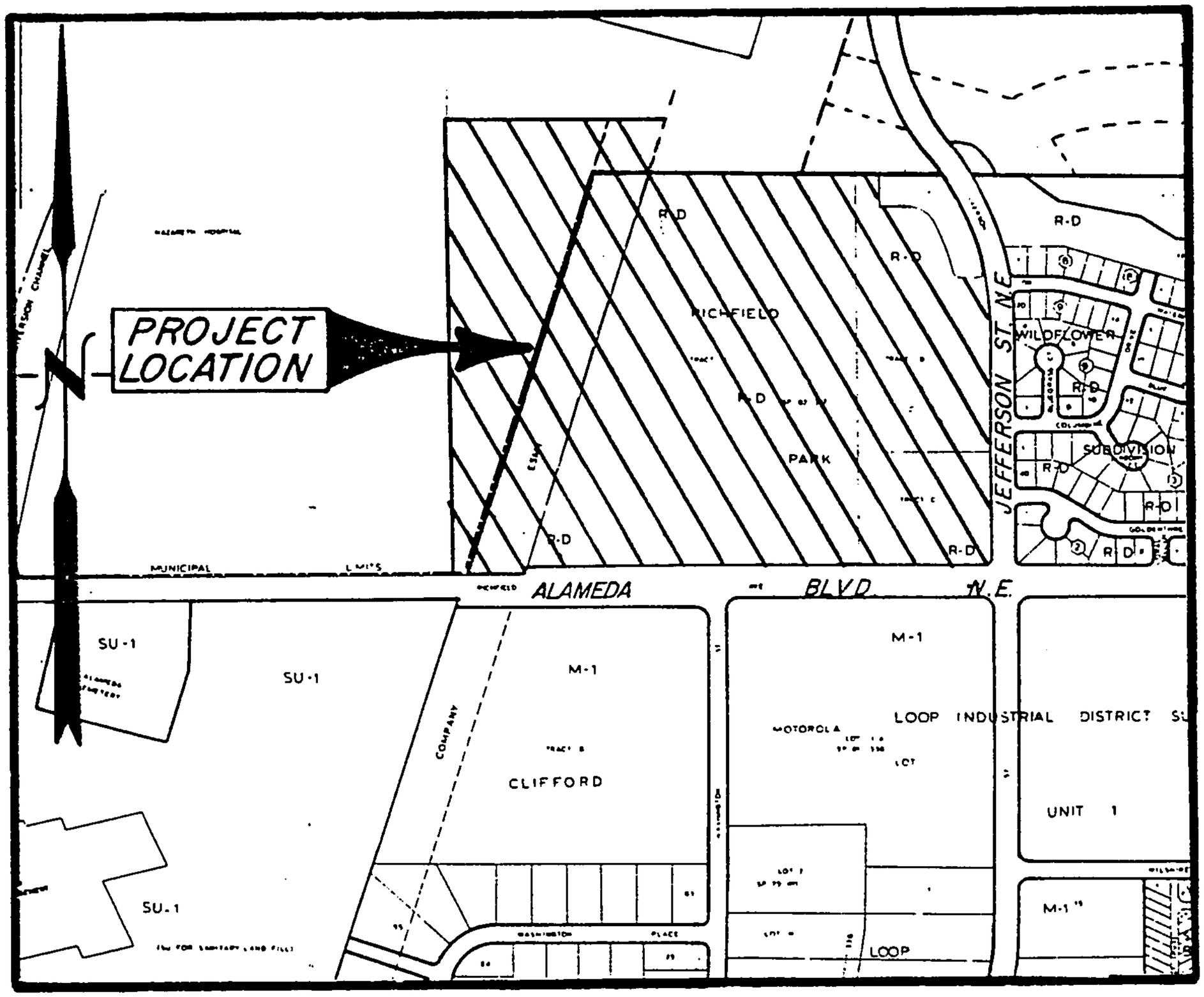
The purpose of this report is to establish the criteria for controlling surface storm run-off and to study the hydrologic affects of the proposed drainage/grading and infrastructure improvements to the project. The site is presently described as Richfield Industrial Park, Tract A-1, and Richfield Park, Tracts A, B, and C. This plan determines the excess run-off resulting from the 100-year/6-hour and 10-year/6-hour frequency storms falling within the site, historic and developed conditions. This report is prepared to facilitate preliminary and final platting and work order approval.

It is proposed that the approximately 82-acre site be developed into an industrial park with lots varying from one-half (1/2) acre to two (2) acres in size. The scope of the proposed plan will not increase the flooding potential to adjacent properties or downstream area. The plan is presented in a manner which is acceptable to the City of Albuquerque, using hydrologic procedures as outlined in Chapter 22, Vol. II, of the Development Process Manual.

LOCATION AND DESCRIPTION

The site is located in the North I-25 sector area in Albuquerque, New Mexico. See Vicinity Map, following page. The site is bounded on the east by improved Jefferson Avenue and on the south by improved Alameda Avenue (formerly Richfield Avenue). The South La Cueva arroyo is adjacent on the north. A portion of the South La Cueva is currently being improved. A 100-foot AMAFCA easement and ditch-dike (earthen) parallels the site on the west.

Presently, the site is undeveloped sloping gradually from east to west, generally at 1-2 percent. The major soils present are EmB, Embudo and EtC, Embudo-Tijeras complex, both gravelly fine sandy loams and classified Type "B" by the Soil Conservation Service (see Soils Map, figure 2, page 4).

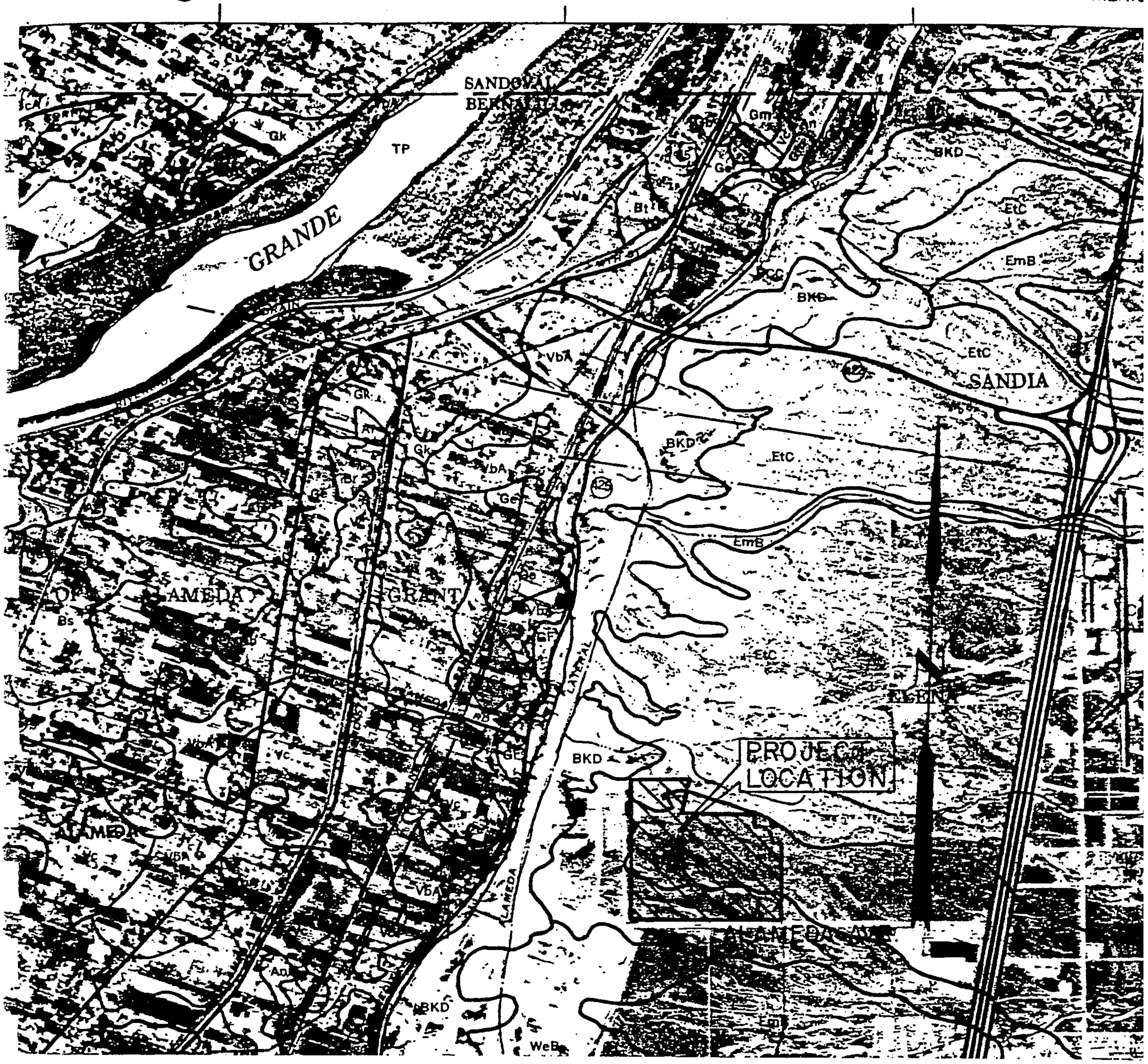


VICINITY MAP

SCALE: 1" = 800' ±

B-17, C-17

FIGURE 1



SOILS MAP

SCALE : 1"= 2000'

FIGURE 2

EXISTING DRAINAGE CONDITIONS

Sheet 1, see Pocket, shows the existing undeveloped drainage conditions. Historically, the northern portion of the site has been seriously impacted by the South La Cueva Arroyo. Recent improvements to Jefferson Steret as a part of the SAD 201 have removed the site from a 100-year flood plain. No off-site flows enter the site. The storm dainage system within Jefferson and Alameda diverts the 100-year storm around the proposed project to the North Diversion Channel. An existing 54-inch storm drain stub-out from the Alameda system, located near the southwest corner of the site, is provided for draining a portion of the site. The capacity of this pipe is 146 cubic feet per second. As previously stated, an existing 100-foot AMAFCA drainage easement is located along the western boundary for the purpose of maintaining a berm to convey sheet flows north to the La Cueva Arroyo.

PROPOSED DRAINAGE CONDITIONS

Sheet 1, along with existing conditions, shows the proposed flow patterns and proposed drainage infrastructure improvements by 1.) proposed 2-foot interval contours; 2.) continuity between existing and proposed contours; 3.) existing and proposed spot elevations; 4.) proposed basin boundaries; and 5.) public and private easements/drainage structures and systems/streets rights-of-way as proposed by this plan.

As previously stated, this project lies within the SAD 201 area. No approved drainage report was ever published by the consultant, Molzen-Corbin & Associates (MC&A) for the district. Hydraulic grade line calculations, however, are available for the storm drain system in Alameda. Since no drainage report is available, the design engineer for the SAD was approached. On June 11, 1986, a conversation with Hans Coucheron-Aamat of Easterling and Associates, formerly with MC&A, lent the following design criteria:

1.) Design of the SAD 201 permitted 0.5 ft. depth in Alameda. Presently Alameda is a four lane divided arterial with standard 2% crown. The depth allowance is contrary to "one-lane dry" drainage ordinance criteria in the present state. If and when Alameda is expanded to six lanes, then the 'one-lane dry" criteria would be met.

2.) A run-off rate of 40 to 60 cfs was programmed to drain to Alameda along the proposed frontage.

3.) The existing 54-inch stub out was programmed for 146 cfs and pressure flow.

4.) Mr. Coucheron Aamat confirmed that a drainage report for SAD 201 was never published and that HGL calcs were on file with the City of Albuquerque.

Upon reviewing the site topography and proposed lot and street patterns, it was decided that draining flows to the existing 54-inch stubout would not be cost effective. The next alternative was to check the possibility of draining all or a portion of the site to the existing 60-inch storm drain located in Alameda upstream from the 54-inch stubout. Upon analyzing the hydraulic gradeline for the Alameda storm drain, it was determined that the 60-inch pipe was presently at capacity and any additional flow caused the hydraulic gradeline to rise above street grade. The solution was to drain the entire site overland by public streets and easements to the existing AMAFCA maintained ditch-dike.

On July 31, 1986, Mr. Dan Sabo, AMAFCA Engineer, verbally approved discharging approximately 198 cfs of stormwater from the proposed industrial park to the AMAFCA easement and channel which drains historically to the north. Basins "A", "B", and "C" are shown draining to the northwest corner of the site. The La Cueva improved channel is programmed to ultimately accept approximately 7000 cfs of storm run-off and all flows from the AMAFCA channel. Some minor regrading of the AMAFCA ditch flowline will be required. No improvements, such as "hardlining", to the channel would be required per Mr. Sabo. His only concerns were velocities and their affect on erosion (see Calcs). Erosion protection will be required at all outfall points to the channel, and must be approved by AMAFCA.

CONCLUSIONS

1. The proposed plan will not increase the flooding potential to adjacent properties or downstream areas.

2. During construction, an erosion control berm shall be constructed along the south and portions of the north property lines to ensure that all sediments remain on site.

3. Individual grading and drainage plans shall be required for the tracts created by this development and shall be in compliance with this report.

4. The site shall be allowed to free discharge to the northwest into the AMAFCA facilities.

5. Erosion control measures shall be required at all outfall points into the AMAFCA channel and shall be approved by AMAFCA prior to release of building permit.

6. Development of upstream lots within Richfield Park shall trigger the construction of any required downstream drainage swales.

CALCULATIONS

ESPEY, HUSTON & ASSOCIATES INC.
Engineering & Environmental Consultants

SUBJECT CALCULATIONS

RICHFIELD PARK

SHEET 1 OF 4 BY DL
DATE 8-1-86 CK BY

I. DESIGN CRITERIA

SOILS : EMB, EMBUDO TYPE 'B'.
ETC, EMBUDO - TIJERAS - TYPE 'B'

HYDROLOGIC METHOD :

A. RATIONAL METHOD WILL BE UTILIZED FOR FLOWRATES.

B. SCS METHOD WILL BE UTILIZED FOR VOLUMES.

RAINFALL: $P_{100} = 2.2$ IN $P_{10} = 1.44$ IN

RUNOFF COEFFICIENTS:

A. RATIONAL 'C' FACTOR

$C_L = 0.25$ $C_{UND} = 0.40$

$C_R = 0.90$ $C_{PAV'T} = 0.95$

⇒ I.P. AREAS ASSUME ;
1/3 ROOF, 1/3 LAWNS, 1/3 PAV'T = USE C=0.74
36% 28% 36%

⇒ COMMERCIAL AREAS ASSUME ;
1/2 ROOF, 1/3 PAV'T, 1/6 LAWNS USE C=0.80

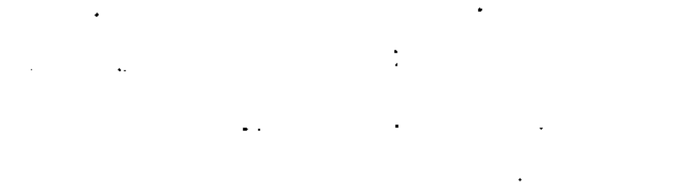
B. FOR SCS CN USE PLATE 22.2 C-2
INDUSTRIAL DISTRICTS CN = 88 ; $RO_{100} = 1.2$"

II RUNOFF

BASIN	A	L	H	tc	C'	CN	L'_{100}	Q_{100}	Q_{10}	V_{100}	V_{10}
A	31 AC	2400'	39'	15 MIN	0.74	88	3.78	86.7	57.0	135,040	67,520
B	31	2400	43'	15	0.80	88	3.78	93.7	61.6	135,040	67,520
C	20	2300	21'	18	0.74	88	3.44	50.9	33.4	87,120	43,560
TOTAL	82	3400	43'	21	0.76	88	3.18	198.2	130.2	357,190	178,600

III SIZE 10' CONCRETE DRAINAGE CHANNEL

A. CHANNEL SECTION



⇒ USE MANNINGS EQN TO CHECK DEPTH REQ'D

BASIN 'A'

Q_{100} = 86.7 CFS S = 0.012

A = 9Y
P = 9(2Y)
R = 0.5
n = 0.013

$$Q = 86.7 = \frac{1.49}{0.013}(9Y)(.5)^{2/3}(.012)^{1/2}$$

$$Y = 1.2'$$

⇒ 2' CHANNEL YIELDS 0.8' FB.

BASIN 'B'

$Q_{100} = 93.7$ CFS
$A = 9Y$
$P = 9(2Y)$
$R = 0.5$
$n = 0.013$
$S = 0.02$

$$Q = 93.7 = \frac{1.49}{0.013}(9Y)(.5)^{2/3}(0.02)^{1/2}$$

$Y = 1.3'$

⇒ 2' CHANNEL YIELDS 0.7' FB

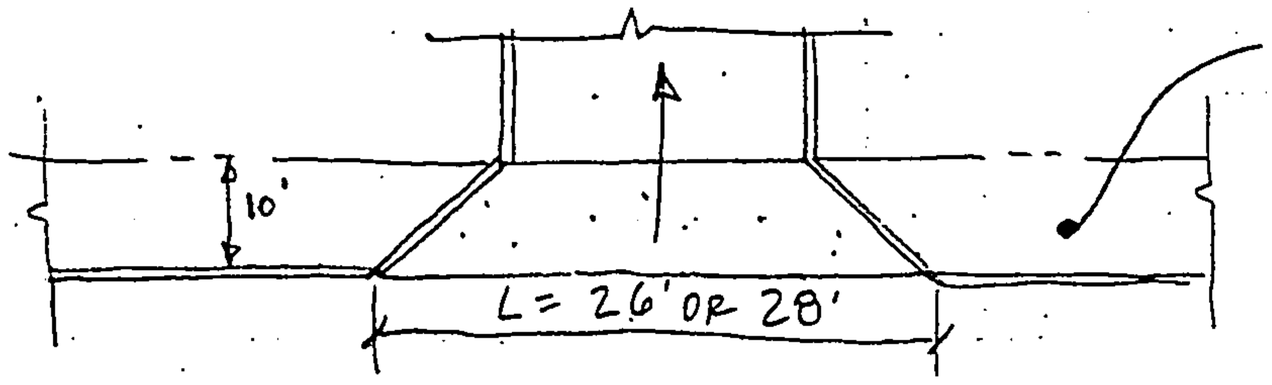
B. SIZE INLET WIDTH BY WEIR EQN USING MAX DEPTH IN STREET = 1.0'

BASIN 'A' $Q = CLH^{3/2}$

$Q_{100} = 86.7$ CFS $\quad L = \frac{86.7}{3.33} = 26'$

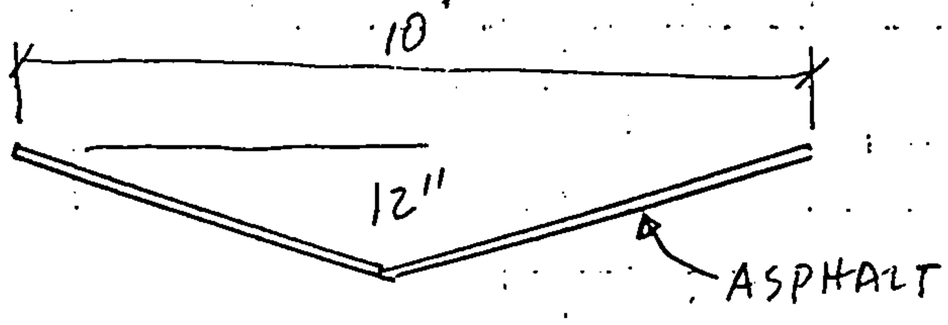
BASIN 'B'

$Q_{100} = 93.7$ CFS $\quad L = \frac{93.7}{3.33} = 28'$



NO S/W PER APPROVED VARIANCE

IV CHECK CAPACITY OF PRIVATE SWALES:



USE MANNINGS:

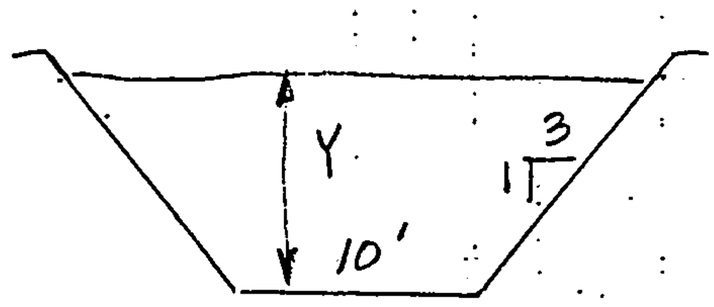
$S = 0.01$ (MIN)
$A = 5$ SF
$P = 10'$
$R = 0.5$
$n = 0.017$

$Q = 27.6$ CFS $\gg$ Q_{100} EXPECTED AT ANY SWALE

V CHECK AMAFCA CHANNEL

USE MANNINGS:

$S = 0.005$ MIN
$n = 0.03$ (EARTH)
$Q_{100} = 198.2$ CFS



$A = 10Y + 3Y^2$
$P = 10 + 4Y$
$R = A/P$

$Q = 198.2 = \frac{1.49}{0.03} A R^{2/3} (0.005)^{1/2}$

$\Rightarrow AR^{2/3} = 56.4$

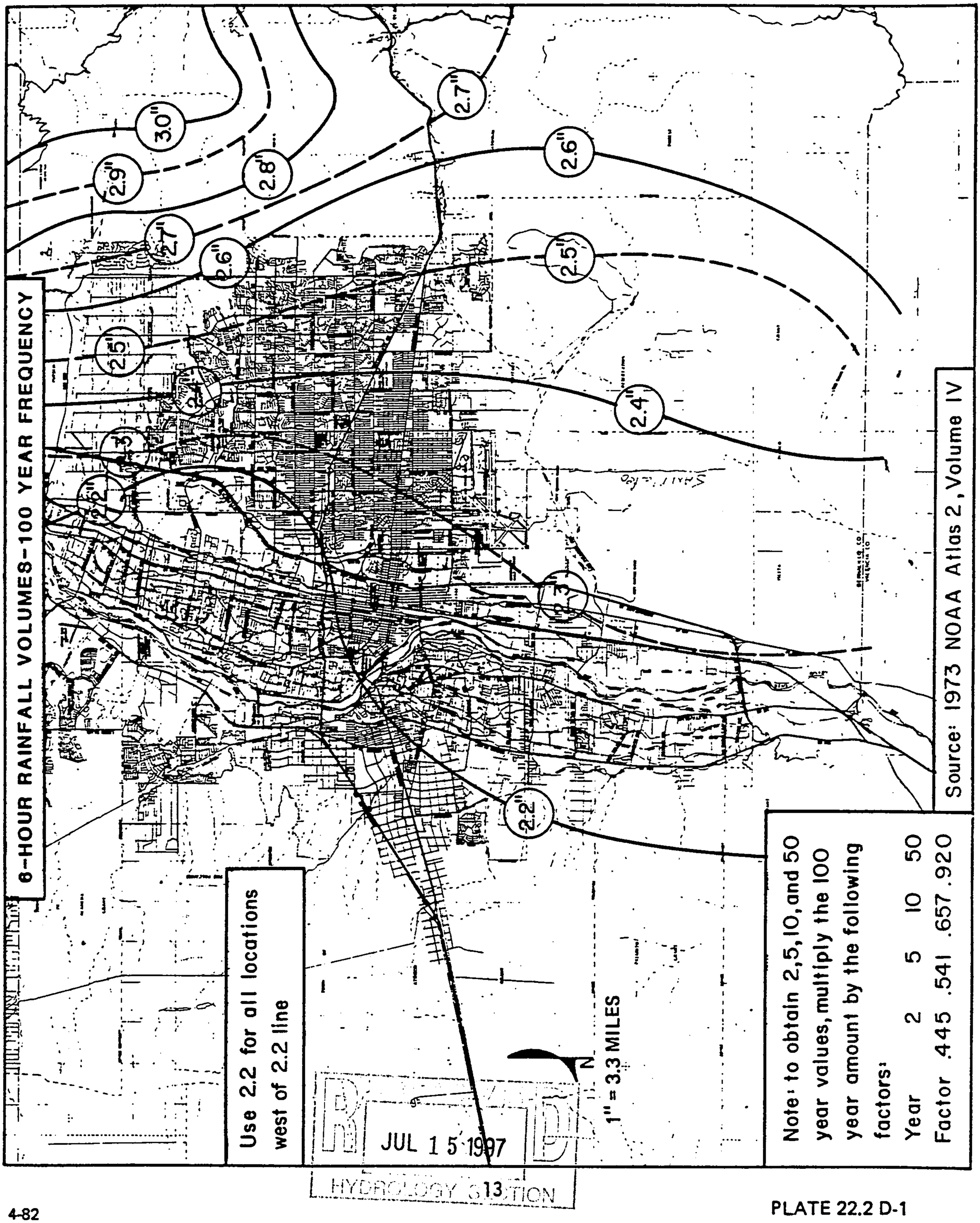
BY T:E $Y_{100} = \frac{2.2'}{2.4}$ OK

$A = 36.52$ SF
40.3

$Q = 194.5 \Rightarrow V = 4.8$ fps

$V = \frac{Q}{A} = 5.4$ FPS

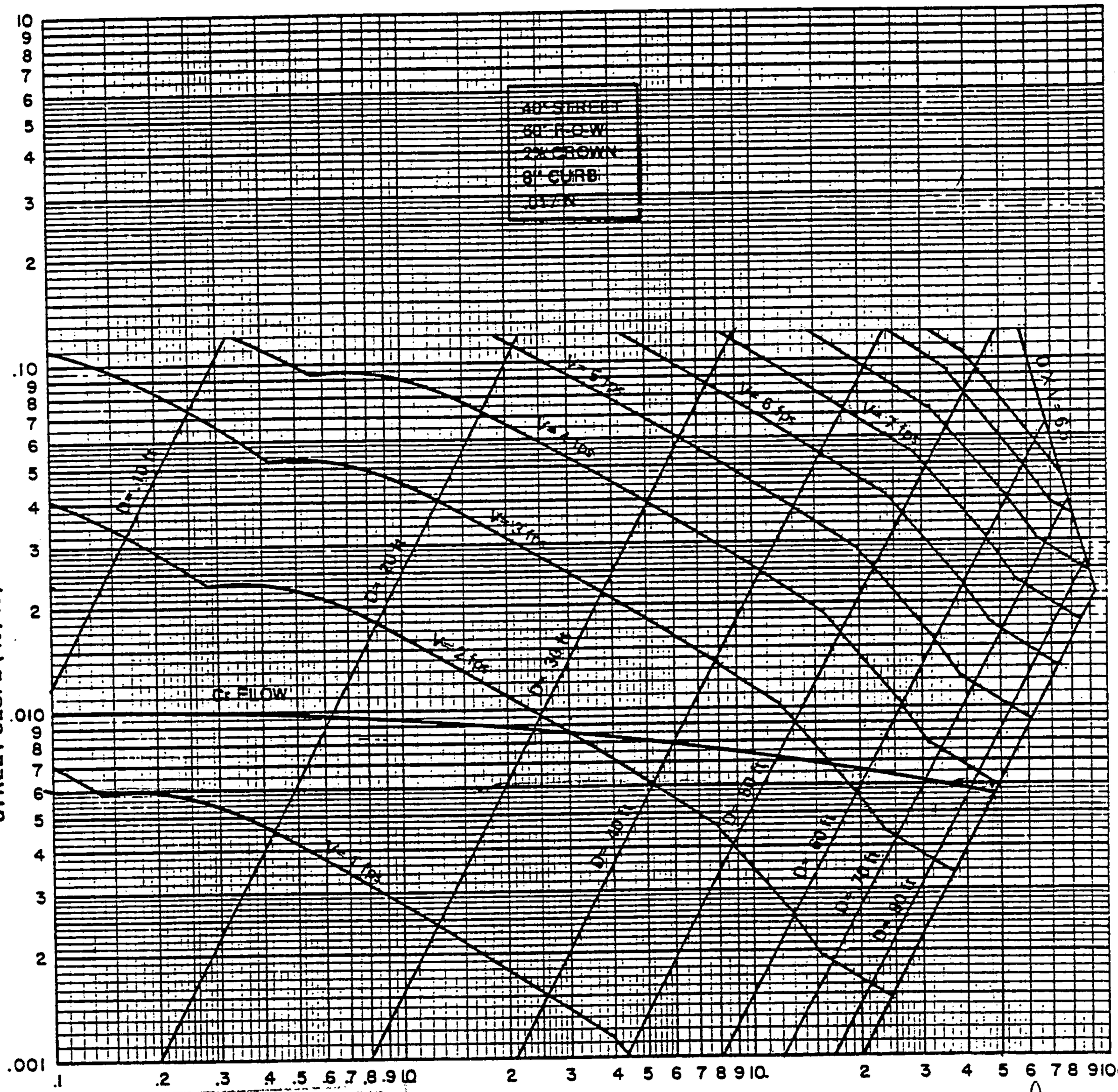
AT 5.4 FPS EROSION IS SLIGHT



4-82

PLATE 22.2 D-1

STREET CAPACITY



ONE HALF STREET FLOWS (cfs)

50 cfs
x 2
= 100 cfs

REV. 3-83

PLATE 22.3 D-2