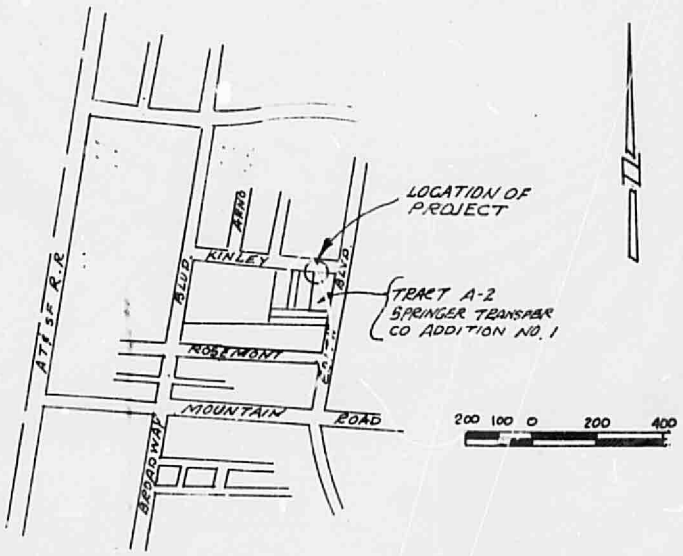
CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



VICINITY MAP

T. M Conway 10/22/81

OWNER:
DR. SID JOHNSON, JR.
6763 GUADALUPE TRAIL NW.
ALBUQUERQUE, NM.

PREPARED BY:
A & E ENGINEERING INC.
266-9702

NOTICE TO CONTRACTOR

1. 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. 30 "
3. Two working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, 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 so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to Residential street use.

APPROVALS	NAME	DATE
A.C.E./DESIGN		
INSPECTOR		2-26-82
A.C.E./FIELD		2-26-82

TITLE: 510 KINLEY - SOUTHWEST FILM POND - DRAIN LINE THROUGH CURB

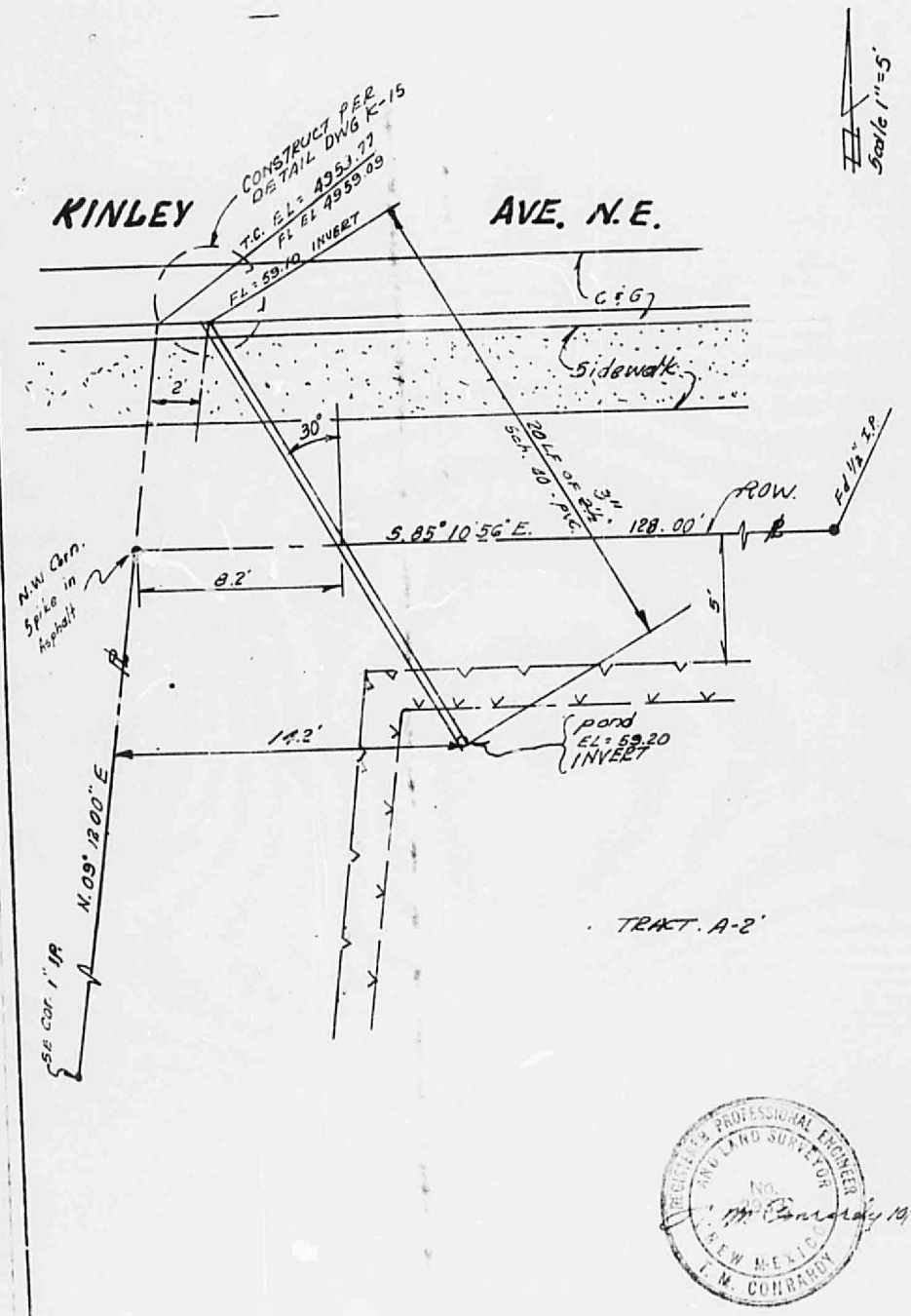
PERMIT NO.
SHEET 1 OF 2

MAP NO. J-14

Permit 05114

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR No. 2297 NEW MEXICO J. M. CORRADO

10/21/81

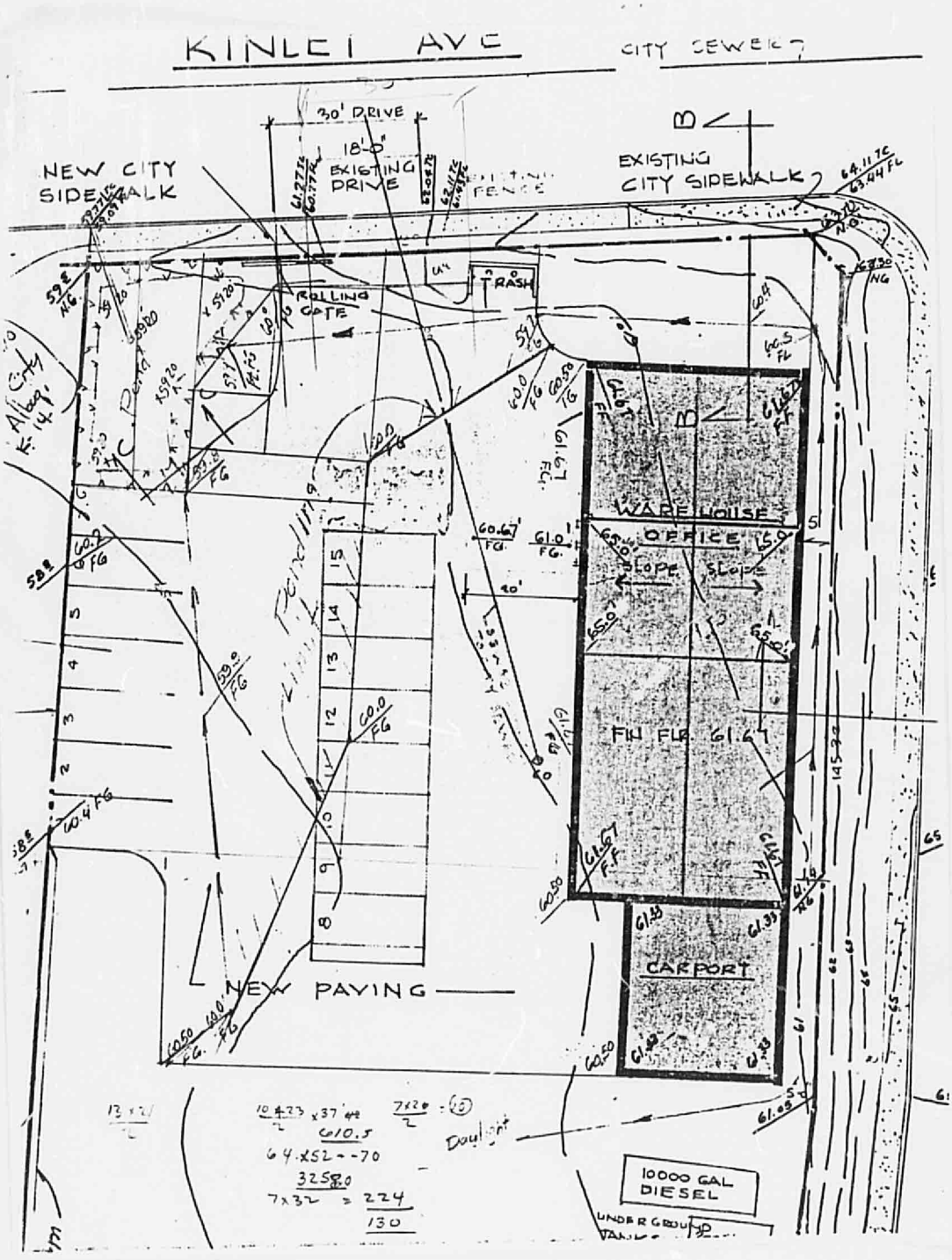
APPROVALS	NAME	DATE
A.C.E./ DESIGN		
INSPECTOR		
A.C.E. / FIELD		

TITLE: 510 KINLEY - SOUTHWEST FILM POND - DRAIN LINE THROUGH CURB

PERMIT NO.

SHEET 2 OF 2

MAP NO.


KINLEY AVE
CITY SEWER
30' DRIVE
18'-0" EXISTING DRIVE
NEW CITY SIDEWALK
EXISTING CITY SIDEWALK
CHAIN LINK FENCE
ROLLING GATE
TRASH
ALLEY
WAREHOUSE
OFFICE
SLOPE
SLOPE
FIN FLR 61.67
CARPORT
NEW PAVING
10000 GAL DIESEL
UNDERGROUND

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DRAINAGE REPORT INFORMATION SHEET

PROJECT TITLE Southwest Film

ZONE ATLAS PAGE NO. J-14Z CITY ADDRESS 510 KINLEY ST.

LEGAL ADDRESS 510 KINLEY

ENGINEERING FIRM A & E. ENGINEERING INC. CONTACT J. P esquibel or Ted Contrardy

ADDRESS 1330 SAN PEDRO NE. PHONE 266-8791

OWNER Mr. Sid Johnson JR. CONTACT owner

ADDRESS 6703 Guadalupe Trail N.W. PHONE 344-5905

ARCHITECT/~~SURVEYOR~~ John Vander Pol AIA CONTACT John Vander Pol

ADDRESS 10832 Prospect Ave NE. PHONE 298-7823

DATE SUBMITTED Resubmitted 10/14/81

BY John P Esquibel president (A & E Engr In

MUNICIPAL DEVELOPMENT DEPARTMENT

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

A&E ENGINEERING INC.
CIVIL ENGINEERING, LAND PLANNING, AND SURVEYING

October 14, 1981

Mr. Brian G. Burnett
City Engineer
Hydrology Section
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: SOUTHWEST FILM DRAINAGE REPORT

Dear Sir:

Transmitted herewith is revised drainage report for Southwest Film. This revised report contains all of the changes that were mentioned in your letter of October 12, 1981.

1. Computed ponds for a 50-year storm.

2. Submitted calculations for emergency spillway drainage.

3. Increased size of ponds to comply with 50-year storm.

Please be aware that the owner and the contractor need this final approval so that they may commence construction immediately.

We will be available to respond immediately to any request or additional requirements that may occur.

Very truly yours,

A & E ENGINEERING, INC.

John F. Esquibel, President

JFE:mhe

1330 SAN PEDRO N.E.
SUITE 114 (505-266-8791)
ALBUQUERQUE, NEW MEXICO 87110

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

October 12, 1981

Mr. John Esquibel
A & E Engineering
1330 San Pedro Drive N.E. Suite 114
Albuquerque, New Mexico 87110

Re: SOUTHWEST FILM DRAINAGE REPORT

Dear John:

An initial review of the referenced drainage report has resulted in the comments listed below. The numbers indicated refer to the Drainage Report (DR) and Construction Plan (CP) Checklists.

1. Please supply this office with the following information:

   a. DR #4 - Delineation of site on pertinent Flood Hazard Boundary Map.

   b. DR #6 - Soils investigation for ponding closer than 15 ft. from the property line minus the required setback on adjacent property. In lieu of a soils report it may be possible to move the pond slightly so that the 15 ft. encroachment guideline is not violated.

   c. DR #7 - Delineation of off-site contributing watersheds on City of Albuquerque ortho-topo maps. The Albuquerque Master Drainage Study indicates that there is 2 cfs at the intersection of Edith and Kinley.

   d. DR #18b and CP #3 - Legal description placed on tne plan.

   e. DR #19c & CP #5 - Description of the on-site temporary bench mark.

   f. DR #20c & CP #8 - Contours and spot elevations extending a a minimum of 15 ft. beyond the south property line.

   g. DR #21I & CP #12 - Finished floor elevation listed to the five (5) digit Mean Sea Level Designation.

2. DR #15B - See Item #1b above.

3. DR #15B1 - The site is located in the Valley. Therefore, Interim Drainage Guidelines call for the 50 year developed volume to be ponded.

4. DR #15B3 - No emergency spillway scheme or calculations were supplied.

5. DR #15C - The proposed 12" berm along the east property line alters the natural flow pattern to the adjacent property. Since no construction is taking place in this area, the berm should be removed.

6. DR #21K & CP #15 - Some provision must be made to insure that water from Kinley Avenue does not enter the property.

7. DR #21M - Approved copies of Special Order No. 19 allowing for work in the City right-of-way must be attached to the construction set before a building permit is issued.

8. A completed drainage covenant will be required before drainage report approval is granted.

9. Please supply this office with a completed copy of the Drainage Report Information Sheet.

If I can answer any questions concerning these matters, please call.

Very truly yours,

Brian G. Burnett

Brian G. Burnett
Civil Engineer

BGB/fs

DRAINAGE REPORT

FOR

SOUTHWEST FILM
510 KINLEY AVENUE

ALBUQUERQUE, NEW MEXICO

To Pam

PREPARED FOR:

SOUTHWEST FILM
c/o JOHN VANDERPOL
10832 PROSPECT AVENUE
ALBUQUERQUE, NEW MEXICO

PREPARED BY:

A & E ENGINEERING, INC.
1330 SAN PEDRO NE
ALBUQUERQUE, NEW MEXICO

JUNE 15, 1981
REVISED SEPTEMBER 25, 1981

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR No. 2933 NEW MEXICO T. M. CONRARDY

9/25/81

THEODORE M. CONRARDY
REGISTERED PROFESSIONAL
ENGINEER NO. 2933

TABLE OF CONTENTS

A&E ENGINEERING INC.
CIVIL ENGINEERING, LAND PLANNING, AND SURVEYING

June 15, 1981

Mr. John Vanderpol
10832 Prospect Avenue NE
Albuquerque, New Mexico 87112

RE: SOUTHWEST FILM

Dear Sir:

We are transmitting this drainage report for Lot 6, of Block 6 of the Springer Transfer No. 1 Addition in Albuquerque, New Mexico. The control of the runoff shall comply with the requirements of the Albuquerque Metropolitan Arroyo Flood Control Authority and with the present City of Albuquerque drainage policies.

We do appreciate this opportunity to serve you and if any questions develop, we will be available to assist you in any response regarding this report.

Very truly yours,

A & E ENGINEERING, INC.

John F. Esquibel, President

JFE:mhe

1330 SAN PEDRO N.E.
SUITE 114 (505-266-8791)
ALBUQUERQUE, NEW MEXICO 87110

GENERAL:

This drainage report consists of a hydrologic study of a probable 100-year storm affecting the proposed development on Lot 6, of Block 6 of the Springer Transfer No. 1 Addition.

LOCATION AND DESCRIPTION:

The property under study is a parcel of land zoned M-1 and contains approximately 1.01 acres. It is located on the southwest corner of the the intersection of Kinley Avenue and Edith Boulevard. This property is more particularly described as Lot 6, of Block 6 of the Springer Transfer No. 1 Addition. The address of this lot is 500 Kinley Avenue.

The existing terrain for the parcel slopes to the west at about 1.80 grade.

PROPOSED DEVELOPMENT:

This parcel of land is to be developed into an office and warehouse to house the Southwest Film. It will be graded, paved and landscaped to shed storm water off the property, so that the runoff drains into proposed ponds and shall be controlled in a similar manner as existing conditions.

PROPOSED DRAINAGE PLAN

In order to control onsite runoff of this development, the area has been designed with grades, landscaped area and ponds to collect the runoff.

The drainage has been divided into two (2) drainage areas to prevent concentration of runoff at only one point. (See Plate 1 drainage plan).

Drainage area "A" is the onsite drainage area being the undeveloped portion directly south and east of the developed area. The drainage flows across the existing undeveloped lot in similar manner to the existing conditions. Drainage area "B" the developed portions of this project is the paved area west of the building and the building roofs drains into the pond located along the northwest corner of the parking lot.

There is no offsite runoff affecting this lot.

DISCUSSION OF METHOD

The development of this area will be controlled by the guidelines set forth in the recent resolution of the Albuquerque Metropolitan Arroyo Flood Control Authority and the City of Albuquerque.

The amount of storm water is computed by using a 100-year storm, this being a storm consisting of 100-year 6 hours precipitation as shown by the rainfall frequency maps for New Mexico, June 1967, published by the Special Studies Branch, Office of Hydrology, United States Weather Bureau.

The pond area was calculated so that the volume of water ponded would equal the volume of runoff produced by the development. The pond is sized to hold a 10-year sotrm and the pond and a portion of the parking lot for the 100-year storm.

ONSITE DRAINAGE CALCULATIONS

TOTAL UNDEVELOPED AREA

Area = 1.01 acres

Volume of runoff
Runoff factor = 0.4
Rainfall = 2.4 in.

$$\text{Volume} = 0.4 \times \frac{2.4}{12} \times 1.01 \text{ acre} \times 43{,}560 \text{ sq. ft.} = 3519.6 \text{ cfs.}$$

Revised 10/14/80

Volume undeveloped = 3519.6 cu. ft.

AREA "A"

TOTAL DEVELOPED AREA = 15,492 sq. ft.

Volume

$0.9 \times \frac{2.4}{12} \times 15{,}492$ sq. ft. = 2788.6 cu. ft.

Volume undeveloped area where proposed development will occur

$0.4 \times (2.4) \times 15{,}492 = 1239.4$ cu. ft.

Runoff after developed = 2788.6
Runoff before developed = 1239.4
1549.2 cu. ft. for 100-year storm

AREA "B"

Will remain in its natural state and will not affect this development.

The portion of the parking lot that will be used for ponding will flood to elevation 60.1 under maximum design conditions.

The combined ponding conditions this being the pond 1109 cu.ft. and the parking lot having a ponding capacity of 728 cu. ft. for a combined total ponding capacity for a 100-year storm of 1576.0 cu. ft. This is (1837 - 1549) = 288 cu. ft. in excess of the required amount.

CALCULATIONS

Area of parking lot to be used as ponding 5600 sq. ft. x 0.13 ft. = 728 cu. ft.

SUMMARY

It is recommended that this development be approved since the computations show that the proposed design is adequate to satisfactorily handle a 100-year storm.

50 year Storm pond Calculations

Revised 10/14/98

From: Noaa Atlas 2 Vol IV
New Mexico

50 year storm
10 minute duration
i = intensity 4.85
$Q = CiA$

$C = 0.9$ for developed area
$C = 0.4$ for undeveloped area

$a_{undeveloped} = a_{area\ (acres)} = 2802\ SF / 43560 = 0.064$ Acres

$a_{developed} = a_{area\ (acres)} = 15682 / 43560 = 0.36$ Acres

$Q_{50\ developed} = 0.9\ (4.85)\ (0.36) = 1.57$ cfs

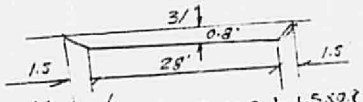
$Q_{50\ undeveloped} = 0.4\ (4.85)\ (0.064) = 0.12$ cfs

$Volume_{50\text{-}developed} = 1.57\ ft^3/sec \times 10\ min \times 60\ sec/min = 942.\ ft^3$

$Volume_{50\ undeveloped} = 0.12\ ft^3/sec \times 10\ min \times 60\ sec/min = 72\ ft^3$

Total 50 year runoff flowing into pond
= 1014.2 ft^3 required

Pond Size or Capacity



W = 31'
L = 47'

$Volume/_{LF} = 28 \times 0.8 + 1.5 \times 0.8 = 23.6\ ft^3/LF$

Total Capacity of Pond $= 23.6/_{LF} \times 47\ LF = 1109\ ft^3$

From: Noaa. Atlas 2, Vol. IV New Mexico

10 year storm
10 minute duration
i - intensity = 3.94

$Q = c\,i\,a$

c = 0.9 for developed area
c = 0.4 for undeveloped area.

$a_{undeveloped}$ = area (in acres) = $2802\ SF / 43560\ AC.$ = 0.064 acres

$a_{developed}$ = $16000 / 43560$ = 0.36 acres

$Q_{10\ developed} = 0.9\,(3.94)\,(0.36) = 1.27$ cfs

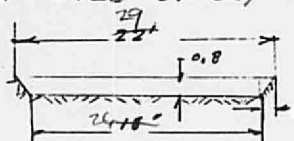
$Q_{10\ undeveloped} = 0.4\,(3.94)\,(0.064) = 0.10$ cfs

$Volume_{10\text{-developed}} = 1.27\ ft^3/sec. \times 10\ min \times 60\ sec/min = 762.0\ ft^3$

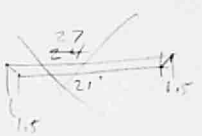
$Volume_{10\text{-undeveloped}} = 0.10\ ft^3/sec \times 10\ min \times 60\ sec/min = 60.0\ ft^3$

Total 10-year runoff flowing into pond = 822.0 ft^3

Pond Size or capacity:



L = 52'



$Volume/Ft = 18 \times 0.8 + (2 \times 0.8) = 13.6\ cu\,ft/LF.$ = 16.0 cu ft/ft

16.0 ft/ft 52.0 ft = 848.0 cu ft.

24 + 0.8 + 1.5 x 0.8
19.2 + 1.2 = 20.4 ft/LF

38 LF x 20.4

Pond Drain Pipe)

Calculations

L = 20.0

H = (5920 - 59.10 = 0.10

Orfice opening 1/2 diameter hole

d = 2 1/2" or $\frac{2.5}{12}$ = 0.208 ft.

Volume generated into pond is equal to 1,549.2 ft^3 by a 100 year storm.

Orfice Design

$Q = Ca\sqrt{2gh}$ $\qquad a = \frac{\pi\left(\frac{0.5}{12}\right)^2}{4} = 0.0014\,ft^2$

$C = 0.64$

$Q = 0.64(0.0014)\sqrt{64.4\,(0.10)}$

$Q = 0.0023$ cfs

Volume per day = 0.0023 cfs x 86,400 sec/day = 198.7 ct/day/orfice

Therefore based on this calculations the will drain out into the ~~street~~ curb and gutter by using 8- 1/2" diameter holes in a day.

8 x 198.7 = 1582.4 cubic feet

The pond will be drained in one day.

Revision 10/13/81

Emergency Spillway calculations

The pond has been designed as a changing rate orfice retention basin for a 100 year frequency storm. The storm water will drain from the pond of a maximum rate equivalent to a - 5-year Q_5 storm calculated for developed condition.

$Q = CIA$

Total area (A in acres) = 15,492 SF or 0.36 Acres

$C = 0.9$

$I = 3.43$

$Q_5 = 0.9\ (3.43)\ (0.36) = 1.11$ cfs

Therefore the flow of $Q_5 = 1.11$ cfs will be used to design the emergency outlet (spillway)

By using the weir approach

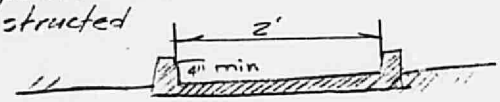
$$Q = 3.33\ L\ H^{3/2}$$

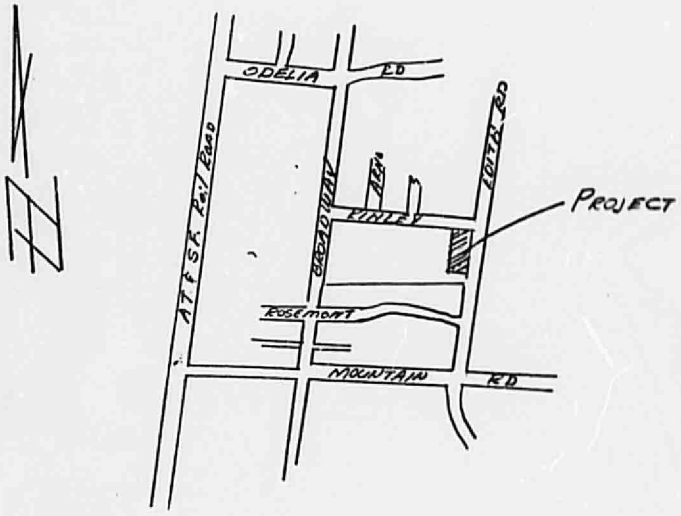
where $H = 0.5'$ maximum.

$$L = \frac{Q}{3.33\ H^{3/2}}$$

$$L = \frac{1.11}{3.33\ (0.5)^{3/2}} = \frac{1.11}{1.18} = 0.94 \text{ feet}$$

Therefor we recommend a spillway of asphalt 2.0' wide and 4" in height to be constructed





VICINITY OR LOCATION

MAP

Zone Atlas No J-14-Z

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

J14-D12

October 20, 1981

Mr. John Esquibel
A&E Engineering
1330 San Pedro N.E., Suite 114
Albuquerque, New Mexico 87110

Re: SOUTHWEST FILM DRAINAGE REPORT

Dear John:

The referenced drainage report is hereby approved. Please see that copies of the revised plans (dated 10/19/81) are placed in the construction sets. Mr. Fred Aguirre will sign off for Hydrology when this is done.

Very truly yours,

Brian G. Burnett
Civil Engineer/Hydrology

BGB/fs

cc: Mr. John Vanderpool

For Fred

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

MAYOR
Harry E. Kinney

CHIEF
ADMINISTRATIVE OFFICER
Frank A. Kleinhenz

June 7, 1977

J. J. Bordenave, Chief Engineer
Burnett Engineering Inc.
120 Morningside N.E.
Albuquerque, NM 87108

Dear Mr. Bordenave:

The drainage study for the new office and repair shop at 500 Kinley N.E. has been reviewed and is approved. The construction plans for the office building will have to include the grading plan that is attached to the drainage study.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/kr

DRAINAGE REPORT

FOR

R. F. BOX REDEVELOPMENT

OF TRACT "A"

SPRINGER TRANSFER CO. ADDITION NO. 1

June, 1977

DRAINAGE REPORT

FOR

R. F. BOX REDEVELOPMENT

OF TRACT "A" - SPRINGER TRANSFER CO. ADDITION NO. 1

June, 1977

Prepared By

T.T. Burnett Engineering, Inc.
120 Morningside Dr. NE
Albuquerque, New Mexico 87108

Prepared For

R.F. Box, Inc.
500 Kinley Ave. NE
Albuquerque, New Mexico 87102

Jean J. Bordenave, N.M.P.E. & L.S. #5110

TABLE OF CONTENTS

DRAINAGE REPORT

FOR

R. F. BOX REDEVELOPMENT

OF TRACT "A" - SPRINGER TRANSFER CO. ADDITION NO. 1

PURPOSE

The purpose of this report is to present to governing agencies a reasonable method of complying with City Ordinance 59-1976 and thereby lessen runoff from the proposed development to an amount not in excess of the flow to be expected from the property in its present state. The report is composed of a narrative of existing and proposed conditions and computations to determine recommended runoff control structures.

LOCATION AND TERRAIN

The proposed development is located on the southwest corner of Kinley Ave. and Edith Blvd. in the northeast quadrant of the City (see Plate I for the exact location).

The property slopes westerly at a rate of two percent on the east side and at a rate of less than one percent on the west side. The soil is composed of sandy silt with some gravel and due to the fact very little, or no, planting is on the property and heavy equipment frequently traverses the exposed soil surface the infiltration rate is quite low. Storage of runoff would be quite low except that there is an existing graded low near the center of the property.

EXISTING DEVELOPMENT

The property has been used by the present owner for several years for the same purpose for which it is now intended. At present there are two buildings, three trailer houses and a large concrete apron on the property. The low area (mentioned under location and terrain) is near the existing concrete apron. The concrete apron has an open grate which flows to the sanitary sewer.

PROPOSED DEVELOPMENT

Of the structures mentioned above only the two buildings are to remain. The concrete apron and the open grate are to be removed and the sanitary sewer service line will be plugged. In addition,two buildings and an asphalt parking area are to be constructed.

UPLAND DRAINAGE

All upland drainage will be intercepted by Edith Blvd. which is presently under construction. Present City policy of confining 100 year frequency storm runoff to within the street right-of-way will protect the proposed development as well as eliminate the need for provision of carrying upland flows through the proposed development.

INTERNAL DRAINAGE

A portion of the flows developed internally will be stored in a retention pond located near the present graded low on the property. The pond shall be so

INTERNAL DRAINAGE (cont.)

constructed as to contain the 6 hour, 100 year frequency storm runoff that is in excess of that now generated. The stored runoff will be dissipated through infiltration and evaporation.

CONCLUSIONS

Flows generated by the proposed development will be partially stored on site. Those flows in excess of strage capacity will be allowed to exit to adjacent property and to Kinley Ave. as they now do. Downstream flows will be slightly less than they now are due to the oversized pond. The stormwater flow in the sanitaty sewer will be eliminated.

Job 7711

DRAINAGE REPORT
R.F. Box, Inc.
DETENTION/RETENTION REQ'D

June 1977
J.J. Bordenave

SHEET 1 OF 1

EXISTING STRUCTURES (to be removed)

4,400 Sq.Ft.

NEW STRUCTURES (including parking area)

15,630 Sq.Ft.

VOLUME OF POND REQ'D (assume no infiltration)

Use C developed = 0.95

Use C not developed = 0.45

Use total 6 Hr rainfall = 2.4 inches
(from NOAA Atlas 2 Vol. IV New Mexico

$(15,630 - 4,400)(0.95 - 0.45)(2.4/12) = 1,123$ Cu Ft

POND PLACEMENT

try to locate @ existing low near center of property.

area draining to pond

$C = 0.45$, $A = 220 \times 230 + 100^2 = 60,600$ Sq Ft

$C = 0.95$, $A = 40 \times 55 + 70 \times 20 = 3,600$ Sq Ft

flow to pond

$[(60,600)(0.45) + (3,600)(0.95)](2.4/12) = 6,138$ Cu Ft

drainage area, if pond is located @ existing low, is more than adequate to generate the volume required for ponding. Build pond with large surface area and shallow (< 0.5 ft) depth. Use 1500 Cu Ft as min. volume.

Drainage Report
R.F. Box
Plate I

J-14-Z

SMEAD--HASTINGS, MN.
NO. T118GN