PLANS/PLATS ON FILE

FILE DESC: K-21/D022

PLANS/PLATS 3

FILE COPY

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

KEN SCHULTZ
MAYOR

January 6, 1989

Dean Lyon, P.E.
Lyon Engineering, Inc.
9850 North 32nd Street
Phoenix, Arizona 85028

RE: GRADING AND DRAINAGE PLAN RESUBMITTAL OF RALLY'S HAMBURGER STAND, RECEIVED JANUARY 5, 1989, FOR BUILDING PERMIT APPROVAL. (K21/D22)

Dear Mr. Lyon:

The above referenced submittal, revised 1/4/89, is approved for Hydrology's sign off of the Building Permit. Include this approved Plan with the construction sets routed for sign off. I also request that a copy of the approved alley grades be included with the construction sets. Blueline copies are available from the Records Section on 4th floor of City Hall.

A separate Retaining Wall Permit must be obtained by the contractor from Code Administration prior to construction of the retaining wall.

If you have any further questions call me at 768-2650.

Cordially;

Roger A. Green, PE

Roger A. Green, P.E.
C.E./ Hydrology Section

RAG/(WP+945)

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

KEN SCHULTZ
MAYOR

December 29, 1988

Dean Lyon, P.E.
Lyon Engineering, Inc.
9850 North 32nd Street
Phoenix, Arizona 85028

RE: GRADING AND DRAINAGE PLAN RESUBMITTAL OF RALLY'S HAMBURGER STAND, RECEIVED DECEMBER 21, 1988, FOR BUILDING PERMIT APPROVAL. (K21/D22)

Dear Mr. Lyon:

I have reviewed the above referenced submittal revised 12/19/88 and concur that previous comments from this office, in the memo dated December 1, 1988, have been met except for item 10. Alley grades were approved for the adjacent alley on 10/7/88. Your Grading and Drainage Plan does not show these approved grades and the proposed site grading is not compatible with the proposed grades of the alley. Enclosed are copies of the approved alley grades and Grading Plan of tract B-1-B, which is adjacent to your south property line. If tract B-1-B develops first, then they are required to grade and pave the alley adjacent to your site to direct and keep their runoff within the alley R.O.W. If your project develops first, then you are required to grade the alley, adjacent to your property, to the approved grades and show "paving by others". These requirements need to be made clear on your Grading and Drainage Plan.

Prior to approval of this Plan for Building Permit, it needs to be revised to include the alley grading and any necessary retaining walls and slope grading. All cut slopes need to be protected against erosion.

If you have any questions call me at 768-2650.

Cordially;

Roger A. Green PE

Roger A. Green, P.E.
C.E./ Hydrology Section

Enclosures

RAG/(WP+945)

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

ALBUQUERQUE NEW MEXICO

KEN SCHULTZ
MAYOR

RECEIVED DEC 1 1988 HYDROLOGY SECTION

December 1, 1988

ME

Dean Lyon
Lyon Engineering, Inc.
9850 North 32nd Street
Phoenix, Arizona 85028

RE: DRAINAGE PLAN FOR RALLY'S HAMBURGER STAND
(K-21/D22) RECEIVED NOVEMBER 16, 1988
ENGINEER'S STAMP DATED NOVEMBER 15, 1988

Dear Mr. Lyon:

Based on the information provided on your submittal of November 16, 1988, listed are 11 items that must be addressed prior to release of the building permit.

1. Attached is a copy of the Mayor's Emergency Rule that you can use to calculate the undeveloped and developed flow rates. You will need to use the SCS formula to compute the volumes.

2. Also attached is a copy of the Drainage Plan Checklist to be used as a guide for preparing Drainage Plans/Reports.

3. Proposed run downs must be either concrete or asphalt. ✓

4. Proposed swale will also need to be concrete or asphalt. The swale is too close to the public right-of-way. The problem of pedestrians falling in is a concern. has low velocity, can leave dirt.

5. We will need the hydraulics on the run downs and swale. ✓

6. The intensity for the area is 5.18 in /hr. not 4.0. ✓

7. The finish floor elevation must be to full mean sea level designation. ✓

8. You must address what effect the runoff will have on the down stream unimproved alley. Erosion and sediment concerns must also be addressed along with capacity. ✓

Planning & Zoning in Albeq indicated only to pave it using for access. We are not

9. Upstream property owner has been advised that he will need to provide alley paving 310 feet from his southeast property corner. Therefore, depending on the condition of the existing alley, alley paving may also be appropriate to drain your water from your site.

10. You will need to check if there is already approved alley grades on file. Are Approved Grades.

11. We will need a copy of your application for registration to New Mexico. ✓

If I can be of further assistance, please call me at (505) 768-2650.

Cordially,

Roger A. Green

For Bernie J. Montoya, C.E.
Engineering Assistant

Enclosures
BJM/bsj
(WP+945)

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Rally's Hamburger Stand ZONE ATLAS/DRNG. FILE #: K-21/D22

LEGAL DESCRIPTION: See Attached

CITY ADDRESS: 801 Juan Tabo Boulevard

ENGINEERING FIRM: Lyon Engineering, Inc. CONTACT: Karin A. Stretchko

ADDRESS: 9850 North 32nd Street, Phoenix, AZ 85028 PHONE: 867-9275

OWNER: Quick Service Restaurants, Inc. CONTACT: Kurt Kittleson

ADDRESS: 5900 North Granite Reef, #103, Scottsdale, AZ 85253 PHONE: 483-0323

ARCHITECT: Design Plus Architects CONTACT: Geoff Pashkowski

ADDRESS: 2211 East Highland, Suite 220, Phoenix, AZ 85016 PHONE: 956-1347

SURVEYOR: Lyon Engineering, Inc. CONTACT: Bob Thurman

ADDRESS: 9850 North 32nd Street, Phoenix, AZ 85028 PHONE: 867-9275

CONTRACTOR: Caviness Construction Company CONTACT: Steve Caviness

ADDRESS: 12633 North Cave Creek Road, #3, Phoenix, AZ 85022 PHONE: 992-7330

PRE-DESIGN MEETING:

___ YES

X NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. ___

EPC NO. ___

PROJ. NO. ___

RECEIVED NOV 16 1988 HYDROLOGY SECTION

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

X GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

X BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

X ROUGH GRADING PERMIT APPROVAL

X GRADING/PAVING PERMIT APPROVAL

___ OTHER ___ (SPECIFY)

DATE SUBMITTED: 11/16/88

BY: ___

RECEIVED
DEC 21 1988
HYDROLOGY SECTION

DRAINAGE STATEMENT

FOR

RALLY'S HAMBURGER
ALBUQUERQUE, NEW MEXICO

NEW MEXICO APPLICATION
APPROVAL PENDING

PREPARED BY:

LYON ENGINEERING, INC.
9850 NORTH 32ND STREET
PHOENIX, ARIZONA 85028
602-867-9275

SITE LOCATION

The site is located on the West side of Juan Tabo Boulevard just south of Lomas Boulevard in Albuquerque, New Mexico.

EXISTING SITE DESCRIPTION

The existing site is approximately 0.65 acres of previously developed land consisting of an 1800 s.f. building and about 22,000 s.f. asphalt pavement. The remaining portion of the property is an undeveloped dirt lot used for drainage purposes. The site slopes to the southwest where the runoff enters an undeveloped alleyway that parallels the southwest property in a northwest direction. Approximately 4600 c.f. of runoff drains from the site into the alleyway. There is no apparent erosion in the alleyway that may be caused by the existing onsite runoff.

PROPOSED SITE CONDITIONS

The proposed site consists of approximately 19,600 s.f. of building and pavement area. The remaining portion is about 8800 s.f. of landscaped areas. The site will drain to the southwest to an onsite manmade drainage swale that will parallel the existing alleyway. The proposed site will generate approximately 4000 c.f. of runoff. The runoff will exit the manmade swale into the alleyway at a rate of 2.47 c.f./sec. or at a velocity of 0.35 ft./sec. because the runoff volume is being decreased and the velocity of runoff in the proposed swale is so minimal, there will be no significant changes in downstream conditions.

CALCULATIONS

The attached calculations were performed in accordance with the City of Albuquerque, New Mexico Requirements and Specifications.

2470 DET. VOLUME OF RUNOFF.

PRE-DEVELOPMENT CONDITIONS:

TOTAL AREA = 29,730 SF

PAVED AREA = 22,160 SF

UNDEVELOPED AREA = 6900 SF

LANDSCAPE AREA = 670 SF

$$\text{WEIGHTED "C"} = \frac{22,160(.95) + 6900(.40) + 670(.25)}{29,730}$$

"C" = 0.806

$$\text{PRE-DEV. VOL.} = \frac{2.3(0.806)(29,730)}{12}$$

VOL. = ~~4596 FT³~~ No use SCS-CN

POST-DEVELOPMENT CONDITIONS:

TOTAL AREA = 28,402 SF

PAVED, ROOFED, SIDEWALK AREAS = 19,602 SF

LANDSCAPE AREAS = 8800 SF

$$\text{WEIGHTED "C"} = \frac{19,602(.95) + 8800(.25)}{28,402}$$

"C" = 0.733

$$\text{POST DEV. VOL.} = \frac{2.3(0.733)(28,402)}{12}$$

VOL. = ~~3990 FT³~~ No use SCC-CN

* ON-SITE VOLUMES WILL BE REDUCED

2470 DET. PEAK RUNOFF

$Q_p = CIA$

C = WEIGHTED RUNOFF COEFFICIENT

I = RAINFALL INTENSITY

A = AREA OF WATERSHED (ACRES)

$Q_p = 0.733(5.18\ IN/HR)(0.6520)$

$Q_p = \underline{2.47\ CFS}$

DESIGN DRAINAGE SWALE TO HANDLE Q_p.

$Q_p = \underline{2.47\ CFS}$

$Q = \frac{1.49}{n} R^{2/3} S^{1/2} A$

WHERE: $R = \frac{A}{P}$ HYDRAULIC RADIUS

A = CROSS-SECTIONAL AREA

P = WETTED PERIMETER

S = SLOPE IN FT/FT

n = MANNINGS COEF. = 0.025

A = 7 SF

P = 13.16 FT

R = 0.532 ; $R^{2/3}$ = 0.655

S = 0.004 ; $S^{1/2}$ = 0.063

$Q = \frac{1.49}{0.025}(0.655)(0.063)(7)$

Q = 17.3 CFS CAPACITY

if d = 0.5
Q = 2.5 cfs
A = 1.7 ft²
V = 1.5 fps

DET. VELOCITY OF RUNOFF IN SWALE - use actual A @ 2.47 cfs

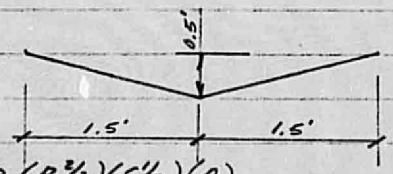
$V = \frac{Q}{A} = \frac{2.47\ CFS}{\text{No. } (7\ S.F.)} = \cancel{0.35\ FT}/SEC$

12/28/87

2470 CALC. CAPACITY OF SPILLWAYS

* CALC'S WILL ASSUME THE SPILLWAY WITH THE LEAST SLOPE, AND USING THE PEAK Q_p FOR THE ENTIRE SITE.

- TYPICAL CROSS-SECTION OF SPILLWAY.



$$Q = \frac{1.49}{n}(R^{2/3})(S^{1/2})(A)$$

WHERE:

$R = \frac{A}{P}$, HYDRAULIC RADIUS

A = CROSS-SECTIONAL AREA

P = WETTED PERIMETER

S = SLOPE IN FT/FT

n = MANNINGS COEF. = 0.015 (CONC.)

$A = 0.75\ FT^2$

$P = 3.16\ FT$

$R = 0.237$; $R^{2/3} = 0.381$

$S = 0.20\ FT/FT$; $S^{1/2} = 0.44$

$$Q = \frac{1.49}{.015}(.381)(.44)(.75)$$

$Q = \underline{12.7\ CFS}$

- CALC. VELOCITY IN SPILLWAY,

$$V = \frac{Q}{A} = \frac{2.47}{0.75} = \underline{3.29\ FT/SEC}$$

Form 7/83PE

STATE OF NEW MEXICO
BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS
AND LAND SURVEYORS

APPLICATION FOR REGISTRATION AS A PROFESSIONAL ENGINEER

RECEIVED DEC 21 1988 HYDROLOGY SECTION

IMPORTANT—Do not fill in until you read and understand this form.
This form must be filled in completely and should be typwritten.
The application shall be accompanied by the proper filing fee.

1. GENERAL INFORMATION

Legal Name Dean A. Lyon Social Security Number 440-50-2960

Mailing Address 2539 E. Carol Avenue, Phoenix, AZ Zip Code 85028

Present Position (your title and firm name) Lyon Engineering, Inc.

Complete Business Address 9850 N. 32nd Street, Phoenix, AZ Zip Code 85028

Telephone number where you may be reached between 8 am and 5 pm 602-867-9275

Birthplace Portland, OR Date of Birth 4/14/50 Citizenship U.S.A.

Application is hereby made for:
- Fundamentals of Engineering Exam
- Principles & Practice Exam
- Registration by Reciprocity — Civil Engineering
- Reinstatement of Certificate No.

State branch of engineering in which you consider yourself best qualified

2. EDUCATION

Give in chronological order the name and location of each college or university attended, the time spent in each and, the degree received and date graduated. An official transcript of your college record must be sent to the Board by the school before the application will be considered.

Name and Location of School	From Date to Date	Major	Degree Received	Date Graduated
Arizona State University (Tempe, AZ)	9/68 - 5/74	Civil Engr.	B.S.E.	5/17/74

3. PREVIOUS REGISTRATION

Name of State	Year Registered	How Registered: written or oral exam give number of hours), reciprocity, long experience, etc.	P.E., L.S. or E.I.	Reg. No.
Arizona	1976	Written and Oral Exam	P.E.	10786
Arizona	1983	Experience	R.L.S.	15888
Nevada	1978	Reciprocity	P.E.	4739

New Mexico State Board of
Registration for Professional
Engineers and Land Surveyors
P.O. Box 4847, Santa Fe, N.M. 87502

(FORM 7-83)

Abstract of Applicant Statement of Qualifications

Name: Dean A. Lyon

Present Position: President/Lyon Engineering, Inc.

Mail Address: 2539 E. Carol Avenue, Phoenix, AZ Zip: 85028

Place and date of birth: Portland, OR 4/14/50

Education:	College or University	Degree	Date of Graduation
	Arizona State University	B.S.E.	5/17/74

Application for registration as: PE ☒ EI ☐ LS ☐ LSI ☐

Training and professional experience indicated below: (As listed on application.)

ENGAGEMENT NO.	DATES FROM	DATES TO	JOB TITLE AND LOCATION OF WORK	NAME AND ADDRESS OF EMPLOYER	TIME EMPLOYED TOTAL TIME	TIME EMPLOYED RESPONSIBLE CHARGE*
1	1972	1977	Project Engineer Phoenix, AZ	International Engineering	5.5	5.5
2	May 1977	Dec. 1977	Project Manager Phoenix, AZ	VBC Consultants (out of business)	0.7	0.7
3	Dec. 1977	Present	Principal Engineer Phoenix, AZ	Lyon Engineering, Inc. 9850 N. 32nd Street	11	11
4						
5						
6						
7						
8						
9						
10						
				Total years (to tenths)	17.2	17.2

*Section 3 of the New Mexico Engineering & Land Surveying Practice Act defines "Responsible Charge" as follows: "responsible charge of work" means the independent control and direction, by using initiative, skill and independent judgment, of the investigation or design of engineering work or the supervision of such projects.

September 12, 1988
DATE

Dean A. Lyon
Signature of Applicant

Lyon Engineering, Inc.
ADDRESS

4. EXPERIENCE RECORD

DATES From—To	TIME SPENT (To Tenths of Years)	NAME OF EMPLOYER, CHARACTER AND TITLE OF EACH POSITION—Give concise explicit statement, including magnitude and complexity of work, your duties and degree of responsibility. Start a new engagement with each significant change in assignment or responsibility. (Instrumentman, Inspector, Asst. Engr., GS-10, etc.) List engagments chronologically from past to present. Use extra sheets if necessary.	NAME, TITLE AND ADDRESS of engineer familiar with each engagement, preferably your immediate superior.
May 1968 May 1971	Part Time (Total 1 year)	Drafting and rodman on survey crew.	Mark Raterman c/o NBS Lowry 164 W. Hospitality Inn Suite 1, P.O. Box 8124 San Bernadino, CA 92412
June 1972 May 1977	5¼ years	Project engineering for design of highway, city streets, water and sewer, and miscellaneous studies.	Mark Raterman c/o NBS Lowry 164 W. Hospitality Inn Suite 1, P.O. Box 8124 San Bernadino, CA 92412
May 1977 Dec. 1977	8 months	Project manager for subdivision projects including water, sewer, paving and drainage design.	Art Brooks Brooks Hersey & Associates 5246 S. 40th Street Phoenix, AZ 85040
Dec. 1977 Present	11 years	Owner and principal engineer of Lyon Engineering, Inc. Have been in responsible charge of all projects performed by Lyon Engineering, Inc. including the following: 1. Municipal water, sewer, storm drain, and major street projects. 2. Site planning and design for commercial sites, residential and industrial subdivisions, apartment projects, and schools. 3. As a Registered Land Surveyor in Arizona - all land surveys and subdivision plats.	Lyon Engineering, Inc. 9850 N. 32nd Street Phoenix, AZ 85028

5. REFERENCES

Give the name and addresses, including zip codes, of five persons, not members of the board, three or more of whom shall be registered engineers, who have personal knowledge of your character and experience.

Name	Complete address with zip code	Position
1. James D. Lemon, Professional Engineer	c/o Coe & Van Loo 4550 N. 12th Street Phoenix, AZ 85014	Project Manager
2. Jeffrey J. Norman, Professional Engineer	c/o Norman Engineering Group 11811 N. Tatum Blvd., Suite 3031 ~~Phoenix, AZ 85028~~	Principal Engineer
3. Leonard J. Mitchell Professional Engineer	4623 W. Redfield Road Glendale, AZ 85306	Engineering Director
4. Mark J. Raterman Professional Engineer	c/o NBS Lowry 164 W. Hospitality Lane Suite 1, P.O. Box 8124, San Bernadino, CA 92412	
5. Kyle H. Brock Registered Land Surveyor	15220 N. 52nd Street Scottsdale, AZ 85254	Project Manager

6. AFFIDAVIT

STATE OF Arizona

County of Maricopa

I, Dean A. Lyon, being first duly sworn, depose and say that I am the applicant named in this application, that I have read the contents thereof, and that, to the best of my knowledge and belief, the foregoing statements are true and correct in every respect.

Subscribed and sworn to me before me this

12th day of September, 1988

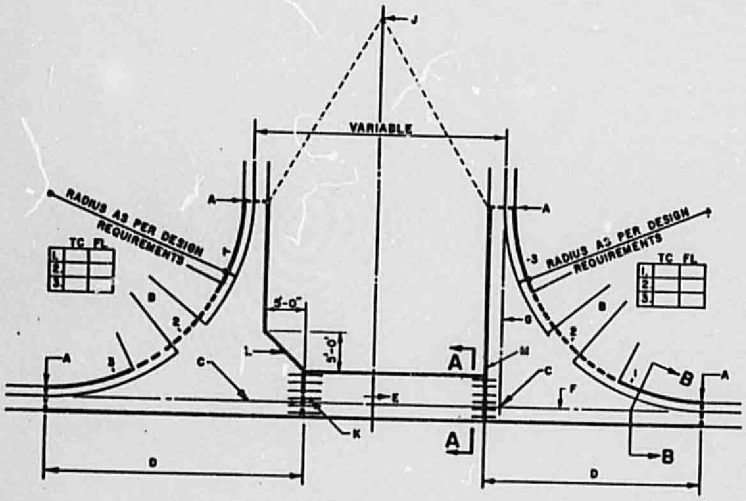
My Commission expires My Commission Expires June 10, 1992

(SEAL)

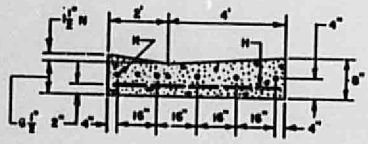
Dean A. Lyon
(Signature of Applicant)

LeAnn Dilbert
(Signature of Notary Public)

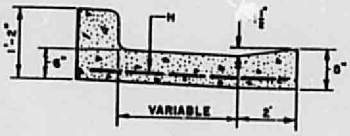
Mail Application, and fee to
The Secretary
New Mexico State Board of Registration for Professional Engineers and Land Surveyors
PO Drawer 1388 Santa Fe, New Mexico 87504
Phone (505) 827-9940



PLAN



SECTION A-A



SECTION B-B

GENERAL NOTES:

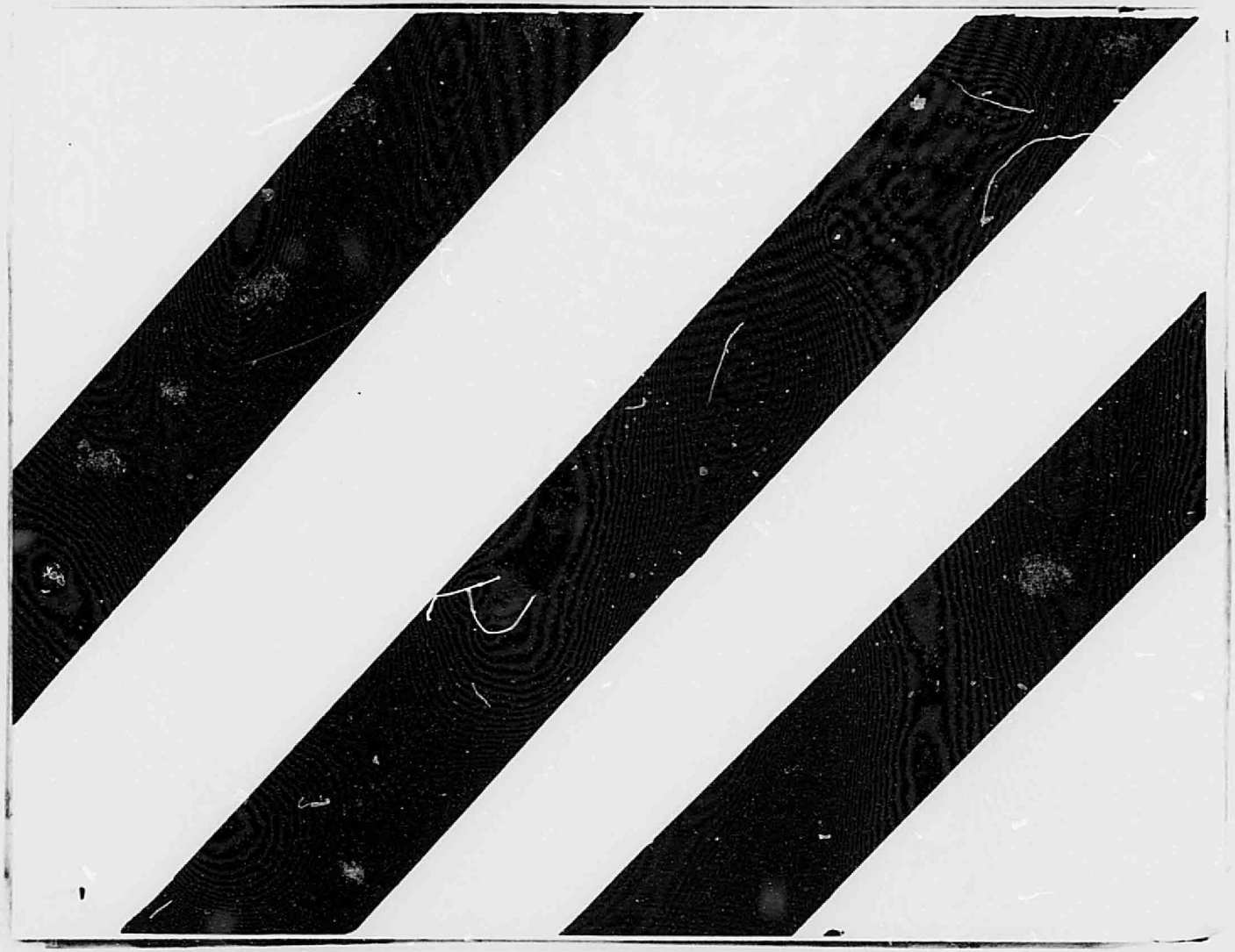
1. DESIGN ELEVATIONS TO BE GIVEN AT EACH END OF THE CURB RETURN (TOP OF CURB ELEV.) AND AT INTERSECTIONS OF PROJECTED FLOWLINES (FLOWLINE ELEV.).
2. ON UPSTREAM AND DOWNSTREAM ENDS OF THE INTERSECTION, VALLEY GUTTER CONSTRUCTION SHALL EXTEND TO THE END OF RETURNS.
3. THE VALLEY GUTTER TO BE REINFORCED WITH 6"X 6"X NO. 6 GA. WIRE MESH.
4. INVERT OF VALLEY GUTTER TO EXTEND FROM FLOWLINE OF UPSTREAM CURB RETURN TO FLOWLINE OF DOWNSTREAM CURB RETURN.
5. CURB FLOWLINE AND TOP OF CURB ELEV. SHOWN IN THE BOX CORRESPOND TO QUARTERPOINTS INDICATED ON THE CURB RETURN IN THE CLOCKWISE DIRECTION.
6. — — — — DENOTES ½" EXPANSION JOINT.
7. FOR NEW CONSTRUCTION, VALLEY GUTTER SHALL BE CONSTRUCTED PRIOR TO ADJACENT PAVEMENT. ASPHALT CONC. SHALL BE INSTALLED MONOLITHICALLY TO MEET NEW VALLEY GUTTER.
8. PRIOR TO CONSTRUCTION OF NEW VALLEY GUTTER ON EXISTING ACCEPTED STREETS, PAVEMENT SHALL BE REMOVED AS SHOWN ON PLANS.

CONSTRUCTION NOTES:

A. END OF CURB RETURN, SEE NOTE 1.
B. FOR RAMP DETAILS, SEE DWGS. 2418, 2440, 2441.
C. INTERSECTION OF FLOWLINES, SEE NOTE 1.
D. SURFACE AND CURB TO BE MONOLITHIC.
E. DIRECTION OF FLOW.
F. FLOWLINE
G. PROJECTED FLOWLINE OF 1½" INVERT, SEE NOTE 2.
H. 6" x 6" NO.6 GA. WIRE MESH.
J. BEGIN CROWN WARP TO STRAIGHT SECTION WHERE SPECIFIED ON PLANS, OR INDICATED BY THE ENGR.
K. NO. 4 BARS 3'-0" LONG AT 16" O.C.
L. ALTERNATE A, WITH FILLET AS PER PLANS.
M. ALTERNATE B, NO FILLET AS PER PLANS.
N. THE 1½" INVERT DEPTH MAY BE REDUCED TO IMPROVE RIDEABILITY WITH APPROVAL OF ENGINEER.

REVISIONS	CITY OF ALBUQUERQUE
	PAVING
	CONCRETE VALLEY GUTTER
	DWG. 2420 AUG. 1966

PLAN/PLATS

ON

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