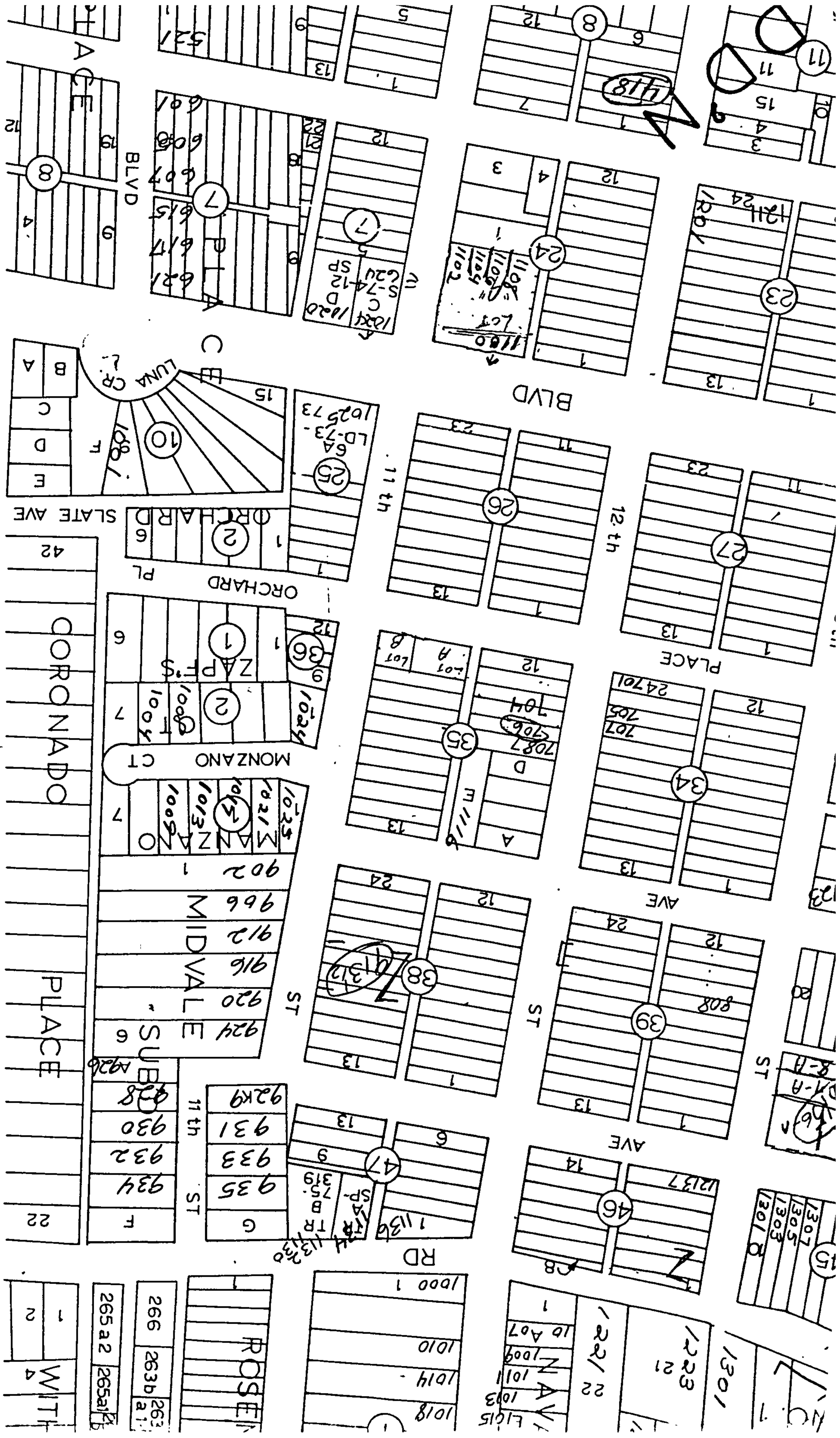
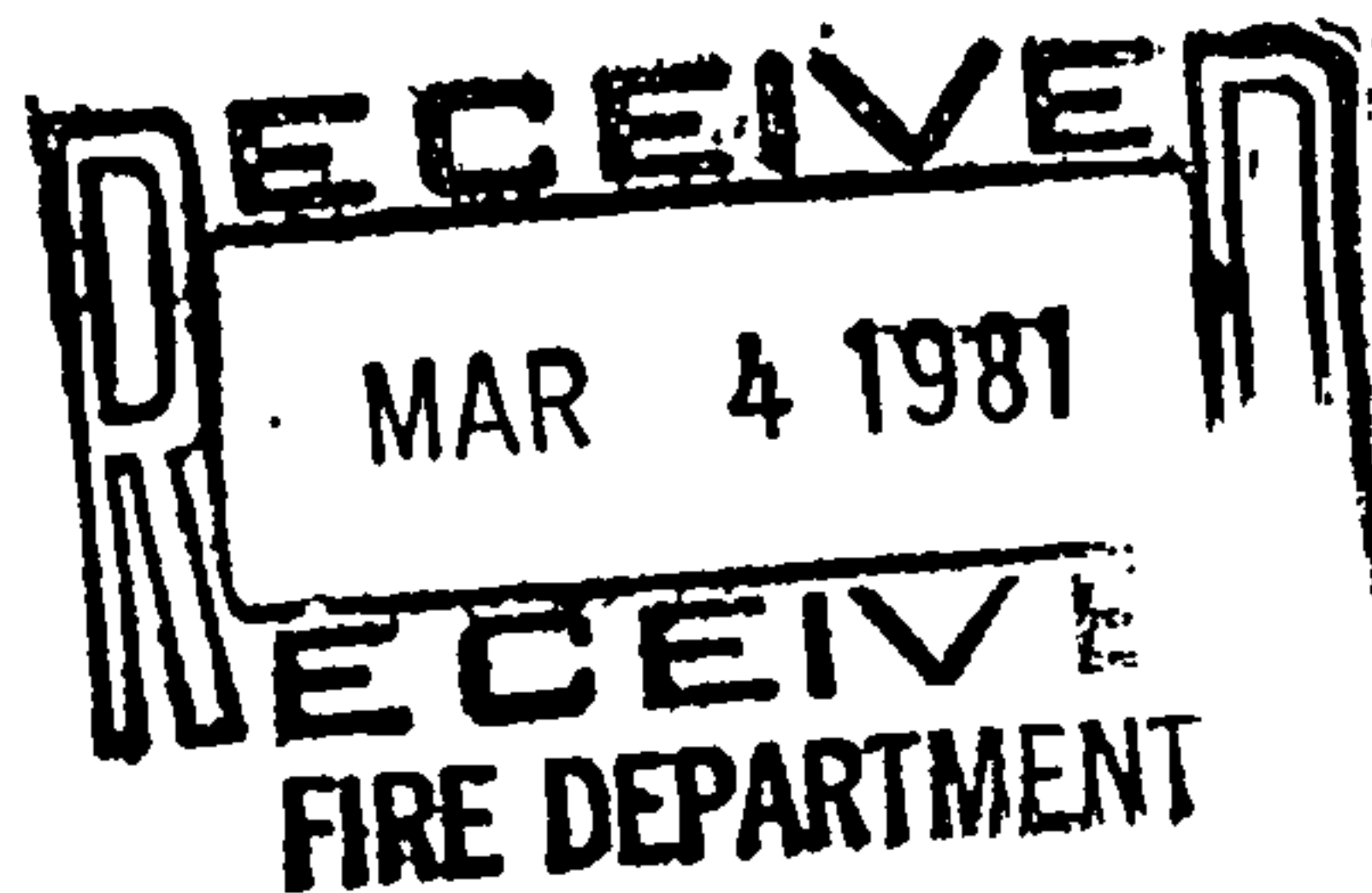




5-B

513

nm



ALBUQUERQUE FIRE DEPARTMENT
FIRE PREVENTION BUREAU

APPROVED/DISAPPROVED

Signed [Signature]

Date 3-4-81

DISAPPROVED FOR DRAINAGE

4-20-81
DATE

[Signature]
SIGNATURE

[Signature]
TITLE

SUBMIT MY ORIGINAL COMMENTS
AND ALL THE SUPPORTING DATA,
SUCH AS:

1. CALCULATIONS SHOWING REQUIRED
POND VOLUMES
2. POSITIVE DISCHARGE OF POND
WITH REQUIRED RATE CALCULATIONS
AND DAFIC CALCULATIONS
3. ALLEY GRADES APPROVED BY
THE A.C.E. DESIGN
4. RECOMMEND A MEETING
TO REVIEW YOUR PROPOSED
DRAINAGE PLAN

ENVIRONMENTAL HEALTH

Rejected By _____ Date _____

Approved By [Signature] Date 3/21/81

Top Soil Disturbance Permit: Required ☐ Not Required ☒

Top Soil Permit Issued By _____ Date _____

Comments: _____



1100 LOMASH HW

J-13-Z

CHKD. BY _____ DATE _____

CLIENT Robert LomasJOB NO. 10.1 / J.F. 5
LOMAS/11TH NW
M. R. G. TORRES

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Developed Drainage Calculations

Composite Runoff Coefficient

	Area (S.F.)	C	C x Area
Buildings	3472 + 5083 = 8555	.9	7699.5
Paving	10515	.9	9517.5
Land Scaping	514	.4	205.6
Pond	<u>1656</u>	.4	<u>66.0</u>
	21300 SF		17488.6
	$= .4890 A_c$	$C = \frac{17488.6}{21300} = .82$	

Ponding Regmts with NO Outflow (Full Detention):

1 year Storm

$$V_1 = CPA = .82 \cdot \frac{1.0}{12} \cdot 21300 = 1456 \text{ Cu Ft.}$$

10 year Storm

$$V_{10} = .82 \cdot \frac{1.5}{12} \cdot 21300 = 2183 \text{ Cu Ft.}$$

50 year Storm

$$V_{50} = .82 \cdot \frac{2}{12} \cdot 21300 = 2911 \text{ Cu Ft.}$$

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Ponding Requirements using Q_1 Positive Outflow
 (Retention Basin)

$$\text{Allowable Outflow} = Q_1 = C I A = .82 \cdot 1.62 \cdot .4890 = .65 \text{ CFS}$$

10 year Storm

$$I = \frac{91}{t+24}$$

$$1) \text{ Allowable Outflow } Q_0 = \frac{Q_{\text{allow}}}{A \cdot C} = \frac{.65}{.489 \cdot .82} = 1.62 \text{ CFS/AC}$$

2) Storage Time to Peak

$$T = -24 + \sqrt{\frac{1.5 \cdot 91.24}{Q_0}} = -24 + \sqrt{\frac{3276}{Q_0}} = 21 \text{ Min}$$

3) Volume Storage/acre imperv

$$\begin{aligned} &= V_s = \frac{60 \cdot 91 \cdot T}{T+24} - 40 Q_0 T = \frac{5460 \cdot T}{T+24} - 40 Q_0 T \\ &= \frac{5460 \cdot 21}{21+24} - 40 \cdot 1.62 \cdot 21 = 1187 \text{ Cu Ft/AC} \end{aligned}$$

4) Volume of Storage

$$= 1187 \cdot .4890 = 581 \text{ Cu Ft}$$

50 year Storm

$$I = \frac{145}{t+20}$$

$$1) \text{ Allow Outflow} = 1.62 \text{ CFS/Ac} \quad (542)$$

2) Storage time to peak

$$T = -20 + \sqrt{\frac{1.5 \cdot 145 \cdot 20}{Q_0}} = -20 + \sqrt{\frac{4350}{Q_0}}$$

$$= -20 + \sqrt{\frac{4350}{1.62}} = 32 \text{ min}$$

3) Volume Storage/Acre

$$V_s = \frac{60 \cdot 145 \cdot T}{T+20} - 40 Q_0 T = \frac{8700 T}{T+20} - 40 Q_0 T$$

$$= \frac{8700 \cdot 32}{T+20} - 40 \cdot 1.62 \cdot 32 = 3280 \text{ Cu Ft/Ac imperv}$$

4) Volume of Storage

$$= 3280 \cdot .4890 = 1604 \text{ Cu Ft}$$

BY _____ DATE _____

SUBJECT _____

SHEET NO. 1 OF 1

CHKD. BY _____ DATE _____

CLIENT _____

JOB NO. _____

TALLES

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Controlled Outflow at .65 CFS

Slope = .006 Thru Side crack

Head - 1 ft

$$\text{Area Req'd} = .2 \cdot Q \cdot \frac{1}{\sqrt{h}} = .2 \cdot .65 \cdot \frac{1}{\sqrt{1}} = .13 \text{ S.F.}$$

5" Pipe $A = .136 \text{ S.F. OK}$

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1100 Lomas N.W.

Ponding Requirement Summary

Storm Frequency	Required Basin Volumes No Outflow (Full Detention) Q1 Outflow (0.65 CFS)
1 year	1456 Cu Ft
10 year	2183 Cu Ft
50 year	2911 Cu Ft
	1604 Cu Ft