



April 14, 1998

CERTIFICATE OF COMPLETION AND ACCEPTANCE

Keith and Patricia MacDuffee
Owners
1309 Onava Court N.E.
Albuquerque, NM 87123

RE: CANYON BREEZE SUB'D.; CITY PROJECT NO. 563981; MAP NO. F-21

Dear Mr. and Mrs. MacDuffee:

This is to certify that the City of Albuquerque accepts the construction of the infrastructure provided in the Work Order Construction Plans, City Project No. 563981 in compliance with the completion of the required public infrastructure listed in the Subdivision Improvements Agreement (SIA) between Keith and Patricia MacDuffee and the City of Albuquerque executed on February 22, 1997.

Having satisfied the requirements referenced above, the SIA and any associated Financial Guaranty, held by the City, can now be released (Processing the release paperwork will take approximately 2 weeks). The Contractors one-year warranty period started at the date of acceptance by the City Engineer, dated April 14, 1998.

Please be advised this Certificate of Completion and Acceptance shall only become effective upon final plat approval and filing in the office of the Bernalillo County Clerk's Office.

Should you have any questions or issues regarding this project, please contact me.

Sincerely,

Ricardo B. Roybal, P.E.
City Engineer
Dev. & Bld. Services Div.
Public Works Department

Good for You, Albuquerque!



Canyon Breeze Sub'd., Proj. #563981

Page 2

April 14, 1998

- c. Jackie McDowell, McDowell Engineering, Inc.
David Peters, First Security Bank
Mary Sandoval, Construction, PWD
Fred Aguirre, Hydrology, PWD
Richard Dourte, Transportation Development, PWD
Roger Green, Utility Development, PWD
f/Project file

McDowell Engineering, Inc.Jackie Sedillo McDowell, P.E.
Civil Engineering Consultant

January 11, 1997

Ms. Lisa Ann Manwill, P.E.
Hydrology
City of Albuquerque Hydrology Department
P.O. Box 1293
Albuquerque, NM 87103**RE: CANYON BREEZE SUBDIVISION (F21-D68) - ENGINEER'S
CERTIFICATION**

Dear Ms. Manwill:

In response to your letter dated December 9, 1997, we offer to the following response to your comment.

1. The existing inlet and point of curvature at the northeast corner of Gutierrez and Morris have been relocated. These improvements were handled by the Infrastructure Improvements Work Order and have been inspected and approved by the City's Construction Inspection Engineer.

If you have any questions, or need additional information, please call me.

Sincerely,

MCDOWELL ENGINEERING, INC.


Jackie S. McDowell, P.E.

cc: Mr. Keith MacDuffee, Owner/Developer

*Spoke w/ Jackie
on 1-13-98 &
asked to
submit an
as-built + up-to-date
LENGR. Cert)*



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

December 9, 1997

Jackie McDowell, P.E.
McDowell Engineering, Inc.
7200 Valley Forge Place NE
Albuquerque, NM 87109

***RE: CANYON BREEZE SUBDIVISION (F21-D68). ENGINEER'S CERTIFICATION
FOR RELEASE OF FINANCIAL GUARANTEES. ENGINEER'S
CERTIFICATION DATED NOVEMBER 16, 1997.***

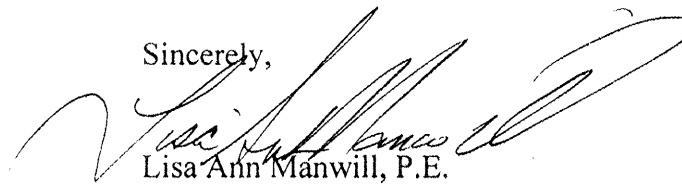
Dear Ms. McDowell:

Based on the information provided on your November 18, 1997 submittal, City Hydrology has the following comments:

1. According to the approved grading plan (dated 1-16-97), the existing inlet and point of curvature at the northeast corner of Gutierrez and Morris are to be relocated. Prior to Release of Financial Guarantees, please complete all work associated with this project.

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

Sincerely,



Lisa Ann Manwill, P.E.
Hydrology

c: Andrew Garcia
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: CANYON BREEZE SUB'D ZONE ATLAS/DRNG. FILE #: F-21/068
DRB #: 96-287 EPC #: _____ WORK ORDER #: _____
LEGAL DESCRIPTION: SECTION 33, T11N, R4E, NMPM
CITY ADDRESS: MORRIS STREET
ENGINEERING FIRM: MCDOWELL ENGINEERING, INC. CONTACT: JACKIE MCDOWELL
ADDRESS: 7200 VALLEY FORGE PL. NE PHONE: 828-2430
OWNER: KEITH MACDUFFEE CONTACT: KEITH MACDUFFEE
ADDRESS: BOX 2243 PHONE: 275-9253
ARCHITECT: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
SURVEYOR: SOUTHWEST SURVEYING CO. INC. CONTACT: DAN GRANAY
ADDRESS: 333 LOMAS BLVD NE PHONE: 247-4444
CONTRACTOR: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

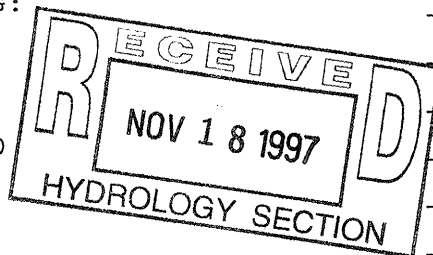
CHECK TYPE OF APPROVAL SOUGHT:

☐ DRAINAGE REPORT
☐ DRAINAGE PLAN
☐ CONCEPTUAL GRADING & DRAIN. PLAN
☐ GRADING PLAN
☐ EROSION CONTROL PLAN
☒ ENGINEER'S CERTIFICATION
☐ OTHER _____

☐ SKETCH PLAT APPROVAL
☐ PRELIMINARY PLAT APPROVAL
☐ S.DEV PLAN FOR SUB'D APPROVAL
☐ S.DEV PLAN FOR BLDG PMT APPR.
☐ SECTOR PLAN APPROVAL
☐ FINAL PLAT APPROVAL
☐ FOUNDATION PERMIT APPROVAL
☐ BUILDING PERMIT APPROVAL
☒ CERT. OF OCCUPANCY APPROVAL
☐ GRADING PERMIT APPROVAL
☐ PAVING PERMIT APPROVAL
☐ S.A.D. DRAINAGE REPORT
☒ DRAINAGE REQUIREMENTS
☒ OTHER FIN. RELEASE (SPECIFY)

PRE-DESIGN MEETING:

☐ YES
☒ NO
☐ COPY PROVIDED



DATE SUBMITTED: NOVEMBER 17, 1997

BY: JACKIE S. MCDOWELL, P.E.

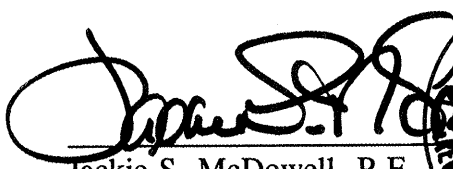
ATTACHMENT NO. 1

SUPPLEMENTAL CALCULATIONS TO

**MACDUFFEE
CANYON BREEZE SUBDIVISION
SECTION 33
T11N, R4E**

GRADING & DRAINAGE PLAN

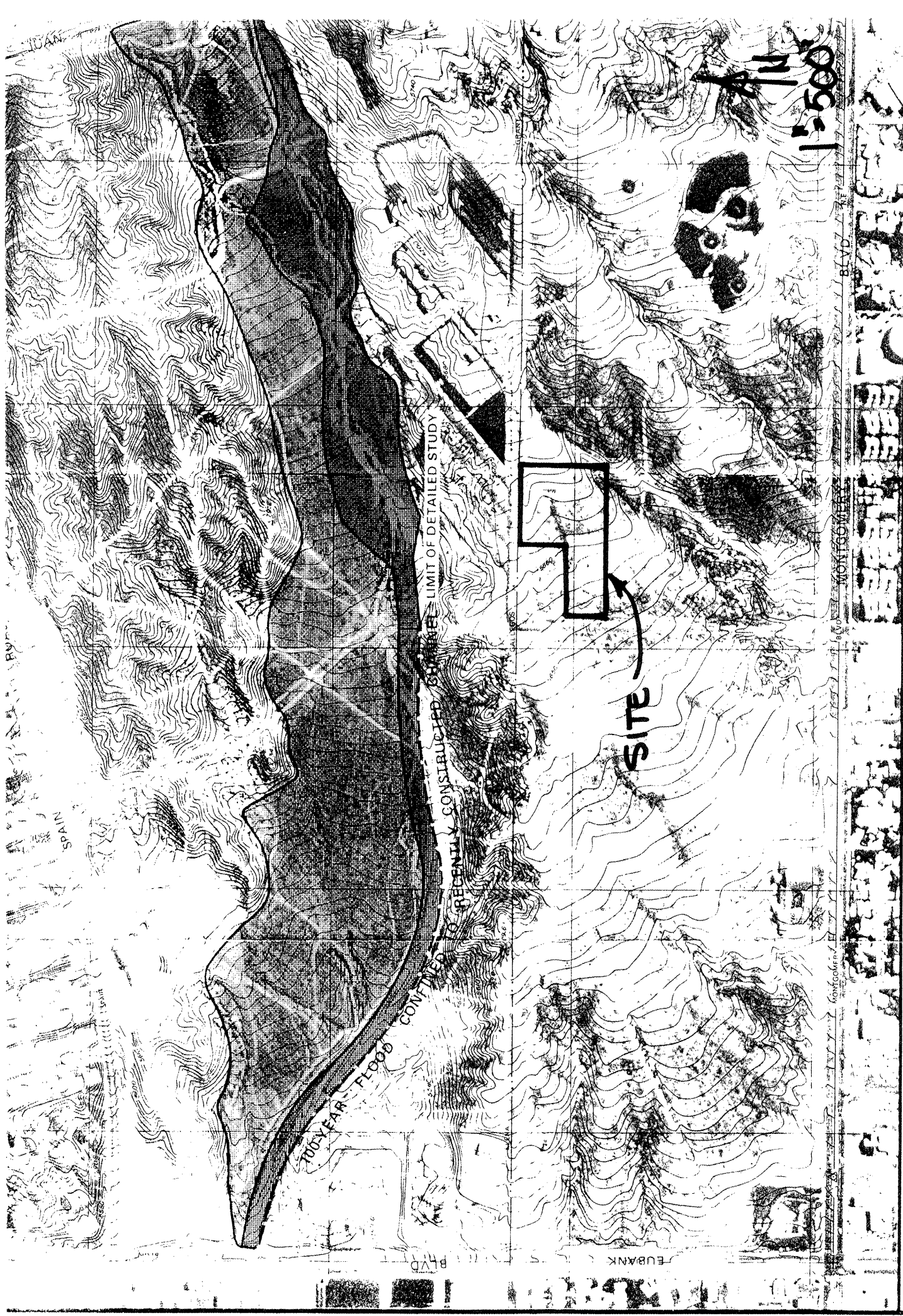
I, Jackie S. McDowell, Registered Professional Engineer, No. 10903, hereby certify that I have prepared the attached calculations.


Jackie S. McDowell, P.E.

 12-6-96
Rev. 1-2-97

TABLE OF CONTENTS

	Page No.
Vicinity Map - Zone Atlas F-21	1
Floodway Map	2
Reduced Grading & Drainage Plan	3
Total Site Calculations	4
Total Back Yard Pond Calculations	5
Individual Lot Pond Volumes	6
Back Yard Pond Volumes	7
Gutierrez Street Capacity	8
Morris Street Capacity	9



2 THIS MAP WAS PRODUCED FROM TOPOGRAPHY GENERATED BY BOHANNAN HUSTON INC. ALBUQUERQUE NEW MEXICO AND FROM EXISTING TOPOGRAPHY ACQUIRED BY THE CITY OF ALBUQUERQUE AND THE ALBUQUERQUE METROPOLITAN ARROYO

ORTHOPHOTOGRAPHY ACCOMPLISHED FROM VERTICAL AERIAL PHOTOGRAPHY IN A ZEISS RECONA 11 INS SERIAL NO 98114 ON 10 8 80 STEEL COMPACTION AND FINAL DRAFTING ACCOMPLISHED BY

Project: CANYON BREEZE Project No.:

TOTAL SITE CALC

31-Dec-96

Calculations: Total Basin

Calculations are based on "Section 22.2 Hydrology of the Development Process Manual, Volume 2, Design Criteria for the City of Albuquerque, New Mexico, January 1993 - basins < 40 acres".

Precipitation Zone = 4

Depth at 100-year, 6-hour storm: (Table A-2)

P = 2.90 inches

Land Treatments:

From Table 5 - Percent Treatment D

Single Family Residential =

$$7 \cdot \text{SQR}((N \cdot N) + (5 \cdot N))$$

where N = units/acre

N = ----- = -----, ok < 6

N = 0.00

Therefore Percent Treatment D = 0.00%

(includes local streets)

Areas: (acres)	Existing	Proposed
Treatment A	3.83	0.00
Treatment B	0.00	1.20
Treatment C	0.00	0.00
Treatment D	0.00	2.63
Total (acres) =	3.83	3.83

→ 0.22 ac. - in R/W
 0.02 ac. per lot
 = 0.02(45)
 → = 0.98 ac.
1.20 ac.

Volume	100 year Existing	100 year Proposed	10 year Existing	10 year Proposed	2 year Existing	2 year Proposed
Volume (acre-feet) =	0.26	0.69	0.09	0.42	0.01	0.23
Volume (cubic feet) =	11,122	29,908	3,893	18,138	278	10,122

Total Q(p), cfs:	100 year Existing Q(p)*A	100 year Proposed Q(p)*A	10 year Existing Q(p)*A	10 year Proposed Q(p)*A	2 year Existing Q(p)*A	2 year Proposed Q(p)*A
Treatment A	8.43	0.00	3.33	0.00	0.19	0.00
Treatment B	0.00	3.50	0.00	1.74	0.00	0.46
Treatment C	0.00	0.00	0.00	0.00	0.00	0.00
Treatment D	0.00	13.81	0.00	9.39	0.00	5.71
Total Q (cfs) =	8.43	17.31	3.33	11.13	0.19	6.16

TOTAL RUNOFF = 17.31 - 0.93 = 16.38 cfs

Back yard retained

↑ you can not take credit for this.

TOTAL BACK YARD POND RETENTION

27-Dec-96

Calculations: Total Basin

Calculations are based on "Section 22.2 Hydrology of the Development Process Manual, Volume 2, Design Criteria for the City of Albuquerque, New Mexico, January 1993 - basins < 40 acres".

Precipitation Zone = 4

Depth at 100-year, 6-hour storm: (Table A-2)

P = 2.90 inches

Land Treatments:

From Table 5 - Percent Treatment D

Single Family Residential =

$$7 * \text{SQR}((N * N) + (5 * N))$$

where N = units/acre

N = ----- = -----, ok < 6

N = 0.00

Therefore Percent Treatment D = 0.00%

(includes local streets)

Areas: (acres)	Existing	Proposed
Treatment A	0.32	0.00
Treatment B	0.00	0.32
Treatment C	0.00	0.00
Treatment D	0.00	0.00
Total (acres) =	0.32	0.32

Volume	100 year Existing	100 year Proposed	10 year Existing	10 year Proposed	2 year Existing	2 year Proposed
Volume (acre-feet) =	0.02	0.03	0.01	0.01	0.00	0.00
Volume (cubic feet) =	929	1,255	325	534	23	128

Total Q(p), cfs:	100 year Existing Q(p)*A	100 year Proposed Q(p)*A	10 year Existing Q(p)*A	10 year Proposed Q(p)*A	2 year Existing Q(p)*A	2 year Proposed Q(p)*A
Treatment A	0.70	0.00	0.28	0.00	0.02	0.00
Treatment B	0.00	0.93	0.00	0.46	0.00	0.12
Treatment C	0.00	0.00	0.00	0.00	0.00	0.00
Treatment D	0.00	0.00	0.00	0.00	0.00	0.00
Total Q (cfs) =	0.70	0.93	0.28	0.46	0.02	0.12

Project: CANYON BLVD Project No.:

INDIVIDUAL LOT POND VOL.
(BACK YARD ONLY)

31-Dec-96

Calculations: Total Basin

Calculations are based on "Section 22.2 Hydrology of the Development Process Manual, Volume 2, Design Criteria for the City of Albuquerque, New Mexico, January 1993 - basins < 40 acres".

Precipitation Zone = 4

Depth at 100-year, 6-hour storm: (Table A-2)

P = 2.90 inches

Land Treatments:

From Table 5 - Percent Treatment D

Single Family Residential =

$$7 * \text{SQR}((N * N) + (5 * N))$$

where N = units/acre

N = ----- = -----, ok < 6

N = 0.00

Therefore Percent Treatment D = 0.00%

(includes local streets)

Areas: (acres)	Existing	Proposed
Treatment A	0.01	0.00
Treatment B	0.00	0.01
Treatment C	0.00	0.00
Treatment D	0.00	0.00
Total (acres) =	0.01	0.01

Volume	100 year Existing	100 year Proposed	10 year Existing	10 year Proposed	2 year Existing	2 year Proposed
Volume (acre-feet) =	0.00	0.00	0.00	0.00	0.00	0.00
Volume (cubic feet) =	21	28	7	12	1	3

Vol. to Pond = $V_{100\text{day}}$ = 28 cu.ft / lot

Total Q(p), cfs:	100 year Existing Q(p)*A	100 year Proposed Q(p)*A	10 year Existing Q(p)*A	10 year Proposed Q(p)*A	2 year Existing Q(p)*A	2 year Proposed Q(p)*A
Treatment A	0.02	0.00	0.01	0.00	0.00	0.00
Treatment B	0.00	0.02	0.00	0.01	0.00	0.00
Treatment C	0.00	0.00	0.00	0.00	0.00	0.00
Treatment D	0.00	0.00	0.00	0.00	0.00	0.00
Total Q (cfs) =	0.02	0.02	0.01	0.01	0.00	0.00

McDowell Engineering, Inc.

7200 Valley Forge Pl. N.E.
Albuquerque, New Mexico 87109
Tele: (505)828-2430

Project: Canyon breezy Sub'd
Project No.: MAC 01966 Date: 12/31/90
Subject: Back Yard Pond Volumes
By: JSM Sheet 1 of 1

The average back yard landscaped area = 310 sf.
= 0.0071 ac.

The volume = 28 cu ft / lot (V_{10day}) = V_{360}

V_{10day} = Required Volume to pond.

$$V_{10day} = V_{360} + A_D * (P_{10day} - P_{360}) / 12 \text{ in/ft}$$

$A_D = 0$ (for back yard landscaping)

$$\therefore V_{10day} = V_{360} = 28 \text{ cu ft / lot}$$

A typical pond: 10' wide x 10' deep x 0.28' deep
 $\Rightarrow 3.36 \text{ ft deep}$

Total Volume Ponded (Retained)

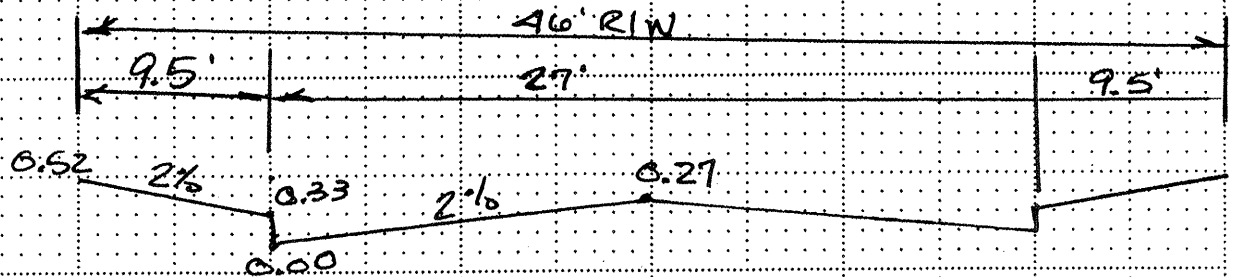
$$= 45 \text{ lots} \times 28 \frac{\text{cu ft}}{\text{lot}} = 1260 \text{ cu ft.} \quad \checkmark$$

Flow Rate Retained = 0.93 cfs. OK

Total Flow from developed site = 17.31 - 0.93 = 16.38 cfs

Allowable = 16.35 cfs OK

GUTTER STREET CAPACITY (ROLL CURB):



$$Q = \frac{1.486 A^{5/3} S^{1/2}}{n P^{2/3}}$$

Where $A = 12.20$ sf

$P = 46.67$

$S_{\text{min}} = 0.0077\%$

$n = 0.017$

$\therefore Q = 38.26$ cfs ✓ OK

$Q_{100} = 16.38$ cfs

McDowell Engineering, Inc.

7200 Valley Forge Pl. N.E.
Albuquerque, New Mexico 87109
Tele: (505)828-2430

Project: CANYON BREEZE SUBD
Project No.: TAAC-1916L Date: 12/16/96
Subject: MORRIS - ST. CAPACITY
By: JKM Sheet 1 of 1

According to SAD 204, The 10-year flow in Morris St must leave 1-lane free for driving during a 10-year storm. (ITEM)

This is achieved, since the storm sewer system designed for SAD 204 carries 100% of the developed 10-year storm leaving Morris dry during a 10-year storm.

The 100 year capacity of Morris St (using published criteria ... flow depth 0.2 ft above curb) is:

$$Q = \frac{1.486 A^{5/3} S^{1/2}}{n P^{2/3}}$$

Where $A = 29.61$ sf. (full street to R/W @ $d = 0.87'$)

$$S = 0.02\%$$

$$n = 0.017$$

$$P = 65.35 \text{ ft.}$$

$$\therefore Q_{100} = 215.93 \text{ cfs. } \checkmark$$

OK

