City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 16, 2003

Diane Hoelzer, P.E.
Mark Goodwin & Assoc.
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: DESERT LANE SUBDIVISION (C-19/D29)
Engineers Certification – Submitted for Release of Financial Guaranty
Engineers Stamp dated 8/5/2002
Engineers Certification dated 5/7/2003

Dear Diane:

Based upon the information provided in your Engineers Certification submittal dated 5/7/2003, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty.

If you have any questions, please call me at 924-3981.

Sincerely,

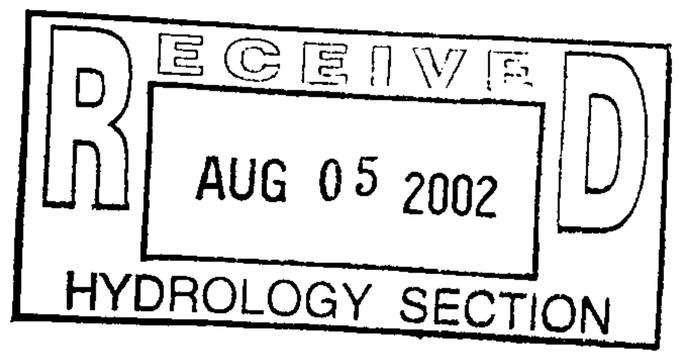
Teresa A. Martin
Hydrology Plan Checker
Development & Bldg. Ser. Division
BW

c: Arlene Portillo, COA- Project # 694281
File

DRAINAGE REPORT

for

Desert Lane Subdivision



AUGUST 2002
DLH

I. PROJECT DESCRIPTION

The proposed Desert Lane Subdivision comprises approximately 5.98 acres and is located adjacent to the south side of Eagle Rock Avenue just west of Wyoming Road. The site is to be developed into 37 single family homes at a density of 7 DU per acre.

II. DRAINAGE DESIGN CRITERIA AND PREVIOUS REPORTS

The design criteria used in this report was in accordance with Section 22.2 Hydrology of the Development Process Manual, Volume 2, Design Criteria, January 1993 edition. The 100-year 6-hour storm event was analyzed to determine street capacities using P(1 hr) = 2.10", P(6 hr)=2.45". The onsite Land Treatment values used were Treatment D=60, Treatment C=20 and Treatment B=20 as determined using "Table A-5 Percent Treatment D" in the DPM. AHYMO printouts are provided in Appendix A.

III. EXISTING DRAINAGE CONDITIONS

Under existing drainage conditions there is a small arroyo that flows from east to west through the center of the project site. The offsite area immediately east of the project site is the A.M.A.F.C.A. diversion berm that diverts the La Cueva Arroyo to the north and west away from the project site. South of the site is vacant land and a couple of one acre homesites and west is the existing Stonebrooke Estates subdivision. There are some minor offsite flows that enter our site from the east and southeast. Lots 20 and 22 along the south property line have single family residences built on them. A majority of the offsite flows on the lots to the south drain to Oakland Avenue.

IV. DEVELOPED DRAINAGE CONDITIONS

The total 'developed conditions' flow from this site is 20.42 cfs. There is an existing downstream storm sewer in Eagle Rock Avenue and Louisiana Blvd., built in conjunction with the Eagle Rock Estates subdivision, that has capacity to convey all of the developed flows from this site. (Refer to the Eagle Rock Drainage Report). However, the downstream proposed La Cueva concrete lined channel that is to receive flows from the connecting Louisiana Blvd. storm sewer is presently under construction as part of the Desert Ridge Trails subdivision. Until this channel is completed there will have to be an interim drainage plan for this site that will retain developed flows on site.

The minor offsite flows along the east property line will be allowed to enter the site through Tract D and Lot 18 and be conveyed at street flow to the south. This is considered a temporary condition and will be allowed only until the adjacent lot develops. Minor offsite flows along the south property line will be directed west and south to Oakland Avenue in a temporary swale as shown on the grading and drainage plan until the time when Lot 19 develops.

V. INTERIM DRAINAGE CONDITIONS

The interim drainage plan is to retain the 100 year - 10 day storm on site in a temporary retention pond to be located along the west property line. The onsite flows will be diverted from Desert Eagle Street through a 10' wide curb cut opening located just southwest of the intersection with Eagle Rock Avenue. A temporary 6" high speed bump across Desert Eagle will facilitate in diverting the onsite flows into a swale connecting to the pond. Refer to the G & D plan for details.

DESERT LANE SUBDIVISION

TABLE 1: SUMMARY OF STREET CAPACITIES

LOCATION	CURB	CROWN	WIDTH ft.	SLOPE %	Q cfs	Velocity fps	DEPTH ft	EG ft.
Desert Eagle Road	MTB	YES	28	6.000	4.81	3.8	0.18	.41
Desert Eagle Road	MTB	YES	28	2.950	11.51	3.6	0.27	.48
Desert Eagle Road	MTB	YES	28	3.626	19.94	4.7	0.31	.65
Desert Eagle Road	MTB	YES	28	0.600	23.25	2.5	0.46	.55

MTB = Mountable Curb

f:\desert _lane\str_cap.tbl

August 2, 2002

SUMMARY FILE

```
AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994          RUN DATE (MON/DAY/YR) =07/31/2002
  INPUT FILE = desert_1.dat                                                              USER NO.= M_GOODWN.I01

                                    FROM  TO                    PEAK       RUNOFF                TIME TO   CFS       PAGE =   1
                      HYDROGRAPH    ID    ID        AREA        DISCHARGE  VOLUME     RUNOFF     PEAK      PER
  COMMAND        IDENTIFICATION     NO.   NO.       (SQ MI)     (CFS)      (AC-FT)    (INCHES)   (HOURS)   ACRE      NOTATION

  START                                                                                                    TIME=       .00
  RAINFALL  TYPE= 1                                                                                        RAIN6=     2.450
  COMPUTE NM HYD        100.00    -     1         .00829       21.42      .768       1.73706    1.500     4.039 PER IMP=   60.00
  COMPUTE NM HYD        101.00    -     1         .00117        1.83      .053        .85262    1.500     2.453 PER IMP=     .00
  COMPUTE NM HYD        102.00    -     1         .00180        2.82      .082        .85262    1.500     2.448 PER IMP=     .00
  FINISH
```

INPUT FILE

```
START               TIME=0.0
*****    DESERT LANE SUBDIVISION
*****    100-YEAR 6-HOUR STORM EVENT
*****    FILE: DESERT_L.DAT  JUL 2002 BY:DLH
RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                    RAIN ONE=2.10 IN RAIN SIX=2.45 IN
                    RAIN DAY=2.85 IN DT=0.05 HR
*****
***** ********* DEVELOPED CONDITIONS ************************
*****
***** SUBASIN 100
***** 5.3025 ACRES
*****
COMPUTE NM HYD      ID=1 HYD NO=100.0 AREA=0.008285 SQ MI
                    PER A=0 PER B=20 PER C=20 PER D=60
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=1 CODE=1
*****
***** SUBASIN 101 EAST OFFSITE
***** 0.7455 ACRES
*****
COMPUTE NM HYD      ID=1 HYD NO=101.0 AREA=0.001165 SQ MI
                    PER A=0 PER B=100 PER C=0 PER D=0
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=1 CODE=1
*****
***** SUBASIN 102 SOUTH OFFSITE
***** 1.1513 ACRES
*****
COMPUTE NM HYD      ID=1 HYD NO=102.0 AREA=0.001799 SQ MI
                    PER A=0 PER B=100 PER C=0 PER D=0
                    TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=1 CODE=1
```

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmg@swcp.com

PROJECT Desert Lane
SUBJECT Retention Pond Vol. Calcs.
BY Dtt DATE 6-13-02
CHECKED _____ DATE _____
SHEET ____ OF ____

Temporary Retention Pond Volume Calcs. Onsite

$P(1) = 2.10"$

$P(6) = 2.45"$

$P(24) = 2.85"$

$P(10\ DAY) = 10 - \left[24.9/(2.85)^{1.4}\right] = 4.25"$

$V_{10DAY} = 0.768\ AF + 3.18\left(\frac{4.25" - 2.45"}{12}\right) = 1.245\ AF$

$V_{OLUME} = 54{,}232\ CF$

Temporary Offsite Retention Pond - East

$V_{10DAY} = 0.075\ AF = 3267\ CF$