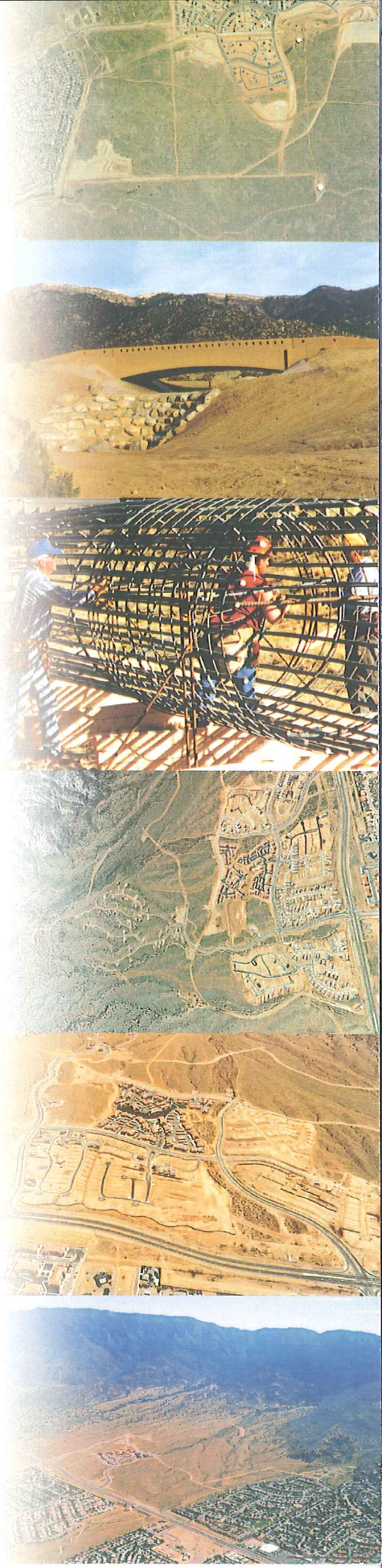
DRAINAGE REPORT
FOR
SUN GATE ESTATES

SEPTEMBER 8, 2004

Prepared for:
D.R. HORTON
4400 Alameda NE - Suite B
Albuquerque, NM 87113



Bohannan ▲ Huston Inc.

ENGINEERING ▲
SPATIAL DATA ▲
ADVANCED TECHNOLOGIES ▲

DRAINAGE REPORT

FOR

SUN GATE ESTATES SUBDIVISION

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Prepared for:

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4400 ALAMEDA NE - SUITE B
ALBUQUERQUE, NM 87113

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PREPARED BY:

Jenny Salgado, E.I. 9/9/04
Jenny Salgado, E.I. Date

UNDER THE SUPERVISION OF:

Christian J. Sholtis, P.E. 9-9-04
Christian J. Sholtis, P.E. Date

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EXHIBITS

I. INTRODUCTION

This drainage study establishes a drainage management plan for the proposed development of Sun Gate Estates Subdivision on Tract 31A-1-A. The Sun Gate Estates Subdivision is approximately 45 acres of residential (R-2) land to be subdivided into 198 single family residential lots. As the proposed residence complies with the proposed zoning of the property, no additional entitlement or zoning effort is required prior to building on the property, The property is in the Rio Bravo Sector Plan and is located on Albuquerque's southwest mesa, south of Blake Road and west of 98th Street. This site will be accessible from Amole Mesa Avenue, Open Range Avenue, and Blake Road.

Sun Gate Estates is in the Amole Arroyo Watershed and encompassed by the Amole-Hubbell Drainage Management Plan. In addition, a draft Drainage Management Plan (DMP) has been developed by Bohannan Huston Inc. for the Gibson Boulevard corridor between 118th Street and the Amole Arroyo. The drainage area covered by the DMP is approximately 300 acres of residential, commercial, and special use zoned property that bound the north and south side of the future Gibson Boulevard between 118th Street to the west and the Amole Arroyo to the east. Sun Gate Estates is in the Drainage Management Plan (DMP) area. Approval of the Gibson Boulevard DMP by the City of Albuquerque and AMAFCA is not required for approval of this Drainage Study for Sun Gate Estates. Planned development will include storm drain installation, which is adequately sized to accommodate off-site flows. The storm drain within Amole Mesa Avenue is to be constructed with the Longford at Arrowwood Subdivision (hereinafter Reference 2) identified in the Drainage Master Plan for Arrowwod written by Wilson & Company, dated June 1, 2004.

This report outlines the hydrological methods used, and summarizes the existing and proposed drainage conditions necessary to support the planned 198-unit development. More specifically, this report is submitted in conjunction with the preliminary plat application. Therefore, preliminary plat and grading plan approval is requested. Prior to final plat and building permit approvals of this project, the City of Albuquerque (COA) must approve final grading plans and work order construction plans. Calculations and supporting data are presented in the appendices. Drainage basin maps, a grading plan, storm drain plans, profiles, details, street profiles, and a copy of the preliminary plat are included at the end of this report.

II. METHODOLOGY

Existing and proposed site hydrological conditions were analyzed for the 100-year, 6-hour storm in accordance with the revised Section 22.2, Hydrology, of the Development Process Manual (DPM) for the City of Albuquerque, dated January 1993. The Arid-lands Hydrologic Model (AHYMO) was utilized to determine peak flow rates for design of the storm drainage improvements within the project. The 100-year, 6-hour storm is used as the design event. The results are included in Appendix A. Street capacities were analyzed using Manning's equation, consistent with the revised DPM Section 22.2. The storm sewer system is analyzed using current DPM methods for pressure and gravity flow conditions. All data and calculations supporting this study are located in Appendix B.

This report will reference the following reports:

1) The hydrologic analysis is also based on the approved drainage report: *Amole-Hubbell Drainage Management Plan, Volume I, Final Facilities Plan Report* dated July 22, 1999, prepared by Leedshill-Herkenhoff, Inc.

2) Drainage Master Plan, Tracts 29, 30, 31 at Arrowwood proposed by Wilson & Company, June 1, 2004. This plan allows for free discharge of developed runoff from Tract 31 into a proposed storm drain system in Amole Mesa Avenue which conveys flows to the Amole Channel.

3) Drainage Management Plan for Gibson Boulevard corridor between 118th Street and the Amole Arroyo, prepared by BHI, dated May 8, 2003. This report allows for free discharge from Tract 31 into a proposed storm drain system in Amole Mesa Avenue which conveys flows to the Amole Channel.

III. EXISTING CONDITIONS

A. Topography

Sun Gate Estates is currently undeveloped land with grades ranging from approximately 1% to 6%. Review of soils information in the area indicates an SCS soil classification of BCC (Bluepoint loamy fine sand). BCC soils consist of deep, somewhat

excessively drained soils formed in sandy alluvial soils, with rapid permeability, slow runoff characteristics, and severe hazard for wind erosion. The Bluepoint Series fits within Hydrologic Group "A", which indicates low runoff potential. Vegetation is light consisting mostly of native grasses

B. Existing Drainage Patterns

Sun Gate Estates is located in the Amole Arroyo Drainage Basin. The site generally drains from Northwest to Southeast. Future development in the area will not alter the natural drainage pattern of the area except adjacent streets which include: Amole Mesa Avenue, 98th Street, Blake Road, and Open Range Avenue.

IV. PROPOSED DEVELOPED CONDITIONS

Sun Gate Estates subdivision is a proposed single-family residential development with 198 lots on 45 acres. Proposed street configurations are shown on the *Preliminary Plat*, **Exhibit 1.** The site was divided into six basins; A, B, C, D, E, F, and G. Basins B through G are off site basins surrounding the Sun Gate Estates Subdivision. Basin A is the on-site basin, which is broken up into eight sub-basins. These sub-basins consist of A1, A2, A3, A4, A5, A6, A7, and A8. The Amole-Hubbell DMP allows for full discharge of developed flows from the Amole Arroyo Basin to the Amole and Hubbell Lake storage facilities. The drainage concepts for Sun Gate Estates are consistent with those presented in the "Draft Master Drainage Study for the Gibson Boulevard Corridor between 118th Street and the Amole Arroyo". The Sun Gate Estates drainage area corresponds to Basin DB18 in the Gibson Boulevard DMP.

The percent impervious land treatment for the proposed conditions is determined from Table A-5 of the DPM, Section 22.2. The land treatment values used in the AHYMO analysis are both A and B equal 20 %, and D equals 60%.

A. Offsite Flows

No offsite flows reach the site from the south or east because the natural ground slopes away from Sun Gate Estates on these sides. The offsite flow from the north is intercepted by Sun Gate Subdivision.

The property to the Northwest of Sun Gate Estates is being developed as El Rancho Grande Units 14 and 15. The majority of the offsite flow to the west is conveyed south by a natural arroyo that is parallel to the western boundary of Units 14 and 15. A drainage swale will be graded west of Messina Drive that will convey this flow into the natural arroyo parallel to the western boundary.

B. Onsite Flows

Developed runoff from Sun Gate Estates will be conveyed by the internal street system to Mountain Gate Lane, where it will be collected by a proposed public storm drain system within Amole Mesa Avenue and conveyed to the Amole Arroyo. This strom drain system which will accept flows from this project will be built as part of the Longford at Arrowwood Subdivision. Inlets are located along Mountain Gate Lane. There are two type A inlets located near the east end of Sun Mountain Trail. Each of these inlets collects 7.5 cfs and allows the street flow directly after to be 38.7 cfs. Also, there are two more type A inlets located near the east end of Sun Chaser Trail on Mountain Gate Lane. These inlets each collect 9.4 cfs. The next set of inlets are located by lots 137 and 138. There are two type A inlets and one type C inlet. The three of these inlets also collect 9.4 cfs. The flow just before this set of inlets is 42.7 cfs. There are three more inlets located just North of Canyon Gate Trail on Mountain Gate Lane. There are two type A inlets and one type C inlet. Each of these inlets collects 9.4 cfs. There are also two more inlets located just past Canyon Gate Trail along Mountain Gate Lane. These also collect 9.4 cfs. Just past the last pair of inlets the street flow is 25 cfs. These inlets collect the runoff from the residential streets into a storm drain that discharges to the Southeast at Mountain Gate Lane into a sump grate and then into the master storm drain located on Amole Mesa. The sump grate is designed for twice the 100 year storm because there is no emergency outfall. See **Appendix B** for street capacity and inlet capacity calculations. This drainage plan proposes discharging 143.5 cfs to the storm drain in Amole Mesa Avenue.

C. FEMA Floodplain

As designated on Panel 336 of 825 (Map number 35001C0336D) of the National Flood Insurance Program, Flood Insurance Rate Maps published by FEMA for Bernalillo

County, New Mexico, effective date September 20, 1996, there is no existing flood hazard zone (zone AO) within the proposed development. See the FEMA Floodplain exhibit provided at the end of the report text.

V. CONCLUSION

This report provides a detailed study of the developed runoff and street capacities for the proposed Sun Gate Estates Subdivision. Included is the preliminary plat, proposed conditions basin map, grading plan, infrastructure list, and all necessary hydrologic and hydraulic analyses. Erosion and dust control, consisting of erosion control berms, silt fencing and sedimentation basins, are proposed to prevent soil washing or blowing into paved streets, storm drains, and existing development areas. This drainage plan maintains the overall drainage pattern of the area and allows for the safe management of storm runoff in permanent as well as interim conditions, and is in conformance with the Drainage Master Plans for the site.

FEMA EXHIBIT
GIBSON BOULEVARD CORRIDOR
APRIL 2003

N

500 250 0 500

1" = 500'

ZONE X

ZONE AO (DEPTH 2)

LIMIT OF DETAILED STUDY

ZONE AO (DEPTH 2)

ZONE AO (DEPTH 3)

ZONE A

100-YEAR FLOOD CONFINED TO CONSTRUCTED CHANNEL

PROPOSED EL RANCHO GRANDE UNIT NO. 10

PROPOSED EL RANCHO GRANDE UNIT NO. 11

GIBSON BLVD.

BLAKE ROAD

ZONE X

BERNALILLO COUNTY UNINCORPORATED AREAS 350001

ZONE X

BERNALILLO COUNTY CITY OF ALBUQUERQUE

CORPORATE LIMITS

ZONE AO (DEPTH 3)

ZONE A

ZONE A

DEL ELFEGO CANYON DELGADO PL CATALINA PLACE DEL REY ROAD LADRONES COURT LADRONES PLACE SNOW VISTA BOULEVARD

ANAYA STREET BENITO STREET GUSCHMINO PLACE VALTIERRA PLACE TOVAR PLACE ANACONDA STREET REDONDO ROAD

PECOS TRAIL RIO PUERCO TRAIL PELJS PLACE

GUADIANA PLACE GUADIANA PLACE CARTAGENA AVE CARTAGENA AVENUE MESSINA DRIVE DE ANZA DRIVE

Arroyo Arroyo

ATRISCO VILLAGE UNIT 1-F (11-20-73, 05-2001)

EL RANCHO GRANDE UNIT 8

TRACT A-2

TIERRA ROJA

LIMIT OF DETAILED STUDY

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 336 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS: COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0336	D
BERNALILLO COUNTY, UNINCORPORATED AREAS	350001	0336	D

MAP NUMBER
35001C0336 D

EFFECTIVE DATE:
SEPTEMBER 20, 1996

Federal Emergency Management Agency

Bohannan ▲ Huston Inc.

Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335

ENGINEERING ▲ SPATIAL DATA ▲ ADVANCED TECHNOLOGY

APPENDICES

APPENDIX A - AHYMO INPUT AND SUMMARY FILES FOR DEVELOPED CONDITIONS

APPENDIX B - STREET CAPACITY AND STORM DRAIN INLET ANALYSIS

APPENDIX C - DRAFT INFRASTRUCTURE LIST

APPENDIX A

AHYMO INPUT AND SUMMARY FILES

FOR DEVELOPED CONDITIONS

```
    AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -                           - VERSION:  1997.02c      RUN DATE (MON/DAY/YR) =
09/07/2004
    INPUT FILE = SUNGATE.HYM                                                                     USER NO.= AHYMO-S-9702c1BohanHu-
AH
                                       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

    *S*                      PROJECT NAME:  SUNGATE ESTATES SUBDIVISION
    *S*                      DATE:  AUGUST 12, 2004
    *S*                      INPUT FILE NAME:  SUNGATE_ESTATES.HYM
    *S*                      OUTUPUT FILE NAME:  SUNGATE.OUT
    *S*                      PROJECT NUMBER:  040111
    *S*                              COMMENTS:  100 YEAR-6 HOUR STORM
    *S ////////////////////////////////////////////////////////////////////////////////                              TIME=
    START
.00                                                                                                                  RAIN6=
    RAINFALL  TYPE= 1
2.200
    *S***********************************************************************
    *S* COMPUTE DEVELOPED CONDITIONS
    *S***********************************************************************
    COMPUTE NM HYD  SUB-BASIN.A1   -     1       .00740       17.09        .597      1.51376    1.500     3.608 PER IMP=
60.00
    *S***********************************************************************
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60.00
    *S***********************************************************************
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60.00
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    COMPUTE NM HYD  SUB-BASIN.A4   -     4       .01190       27.47        .961      1.51376    1.500     3.607 PER IMP=
60.00
    *S***********************************************************************
    COMPUTE NM HYD  SUB-BASIN.A5   -     5       .01050       24.24        .848      1.51376    1.500     3.607 PER IMP=
60.00
    *S***********************************************************************
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60.00
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60.00
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    COMPUTE NM HYD      BASIN.A8   -     8       .00491       11.34        .396      1.51376    1.500     3.610 PER IMP=
60.00
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    *S                       ADD SUB-BASINS A8,A2 FOR DISCHARGE
    ADD HYD                   8.20  8& 2   9     .01191       27.51        .962      1.51371    1.500     3.609
    *S***********************************************************************
    *S                       ADD SUB-BASINS A8,A2,A3 FOR DISCHARGE
    ADD HYD                   9.30  9& 3  10     .02091       48.29       1.688      1.51372    1.500     3.609
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    *S                       ADD SUB-BASINS A8,A2,A3,A4 FOR DISCHARGE
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ADD HYD                10.40 10& 4  11        .03281       75.76       2.649      1.51372    1.500    3.608
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*S                        ADD SUB-BASINS A8,A2,A3,A4,A5 FOR DISCHARGE
ADD HYD                11.50 11& 5  12        .04331      100.01       3.497      1.51373    1.500    3.608
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*S                        ADD SUB-BASINS A8,A2,A3,A4,A5,A6 FOR DISCHARGE
ADD HYD                12.60 12& 6  13        .05131      118.48       4.142      1.51373    1.500    3.608
*S*************************************************************************
*S                        ADD SUB-BASINS A8,A2,A3,A4,A5,A6,A7 FOR DISCHARGE
ADD HYD                13.70 13& 7  14        .05472      126.36       4.418      1.51372    1.500    3.608
*S*************************************************************************
*S                        TOTAL DEVELOPED FLOW FROM SUN GATE ESTATES SUBDIVISION
ADD HYD                TOTAL 14& 1  15        .06212      143.45       5.015      1.51372    1.500    3.608
*S*************************************************************************
*s* COMPUTE EXISTING CONDITIONS
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COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	NOTATION
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*S										
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*S										
COMPUTE NM HYD	BASIN.C	-	19	.00300	8.11	.300	1.87288	1.500	4.221	PER IMP= 90.00
*S										
COMPUTE NM HYD	BASIN.D	-	20	.00540	14.58	.539	1.87288	1.500	4.218	PER IMP= 90.00
*S										
COMPUTE NM HYD	BASIN.E	-	21	.00220	5.95	.220	1.87288	1.500	4.224	PER IMP= 90.00
*S										
COMPUTE NM HYD	BASIN.F	-	22	.00210	5.68	.210	1.87288	1.500	4.224	PER IMP= 90.00
*S										
COMPUTE NM HYD	BASIN.G	-	23	.00230	6.22	.230	1.87288	1.500	4.224	PER IMP= 90.00
*S										
FINISH										

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*S*                    INPUT FILE NAME:  SUNGATE_ESTATES.HYM
*S*                    OUTUPUT FILE NAME:  SUNGATE.OUT
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*S
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                      RAIN ONE=1.90 IN    RAIN SIX=2.20 IN
                      RAIN DAY=2.60 IN    DT=0.05 HRS
**********************************************************************
*********
*S*********************************************************************
*********
*S* COMPUTE DEVELOPED CONDITIONS
*S*********************************************************************
*********
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PRINT HYD             ID=1     CODE=1
*S*********************************************************************
*********
COMPUTE NM HYD        ID=2     HYD NO=SUB-BASIN.A2    DA=0.0070 SQ MI
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*********
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PRINT HYD             ID=3     CODE=1
*S*********************************************************************
*********
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                      TP=-0.1333 HR     MASSRAIN=-1
PRINT HYD             ID=4     CODE=1
*S*********************************************************************
*********
COMPUTE NM HYD        ID=5     HYD NO=SUB-BASIN.A5    DA=0.0105 SQ MI
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PRINT HYD             ID=5     CODE=1
*S*********************************************************************
*********
COMPUTE NM HYD        ID=6     HYD NO=SUB-BASIN.A6    DA=0.0080 SQ MI
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*S*********************************************************************
*********
COMPUTE NM HYD        ID=7     HYD NO=BASIN.A7    DA=0.00341 SQ MI
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```

```
*********
COMPUTE NM HYD        ID=8     HYD NO=BASIN.A8     DA=0.00491 SQ MI
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*********
*S          ADD SUB-BASINS A8,A2 FOR DISCHARGE
ADD HYD               ID=9     HYD NO=8.2     ID I==8    ID II=2
PRINT HYD             ID=9     CODE=1
*S*****************************************************************
*********
*S          ADD SUB-BASINS A8,A2,A3 FOR DISCHARGE
ADD HYD               ID=10     HYD NO=9.3     ID I==9  ID II=3
PRINT HYD             ID=10     CODE=1
*S*****************************************************************
*********
*S          ADD SUB-BASINS A8,A2,A3,A4 FOR DISCHARGE
ADD HYD               ID=11     HYD NO=10.4     ID I==10       ID II=4
PRINT HYD             ID=11     CODE=1
*S*****************************************************************
*********
*S          ADD SUB-BASINS A8,A2,A3,A4,A5 FOR DISCHARGE
ADD HYD               ID=12     HYD NO=11.5     ID I==11       ID II=5
PRINT HYD             ID=12     CODE=1
*S*****************************************************************
*********
*S          ADD SUB-BASINS A8,A2,A3,A4,A5,A6 FOR DISCHARGE
ADD HYD               ID=13     HYD NO=12.6     ID I==12       ID II=6
PRINT HYD             ID=13     CODE=1
*S*****************************************************************
*********
*S          ADD SUB-BASINS A8,A2,A3,A4,A5,A6,A7 FOR DISCHARGE
ADD HYD               ID=14     HYD NO=13.7     ID I==13       ID II=7
PRINT HYD             ID=14     CODE=1
*S*****************************************************************
*********
*S          TOTAL DEVELOPED FLOW FROM SUN GATE ESTATES SUBDIVISION
ADD HYD               ID=15     HYD NO=TOTAL     ID I=14       ID II=1
PRINT HYD             ID=15     CODE=1
*S*****************************************************************
*********
*s* COMPUTE EXISTING CONDITIONS
*S*****************************************************************
*********
COMPUTE NM HYD        ID=16     HYD NO=BASIN.A     DA=0.0703 SQ MI
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                      TP=-0.1333 HR     MASSRAIN=-1
PRINT HYD             ID=16     CODE=1
*S*****************************************************************
*********
COMPUTE NM HYD        ID=17     HYD NO=BASIN.B     DA=0.0020 SQ MI
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                      TP=-0.1333 HR     MASSRAIN=-1
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*S*****************************************************************
*********
COMPUTE NM HYD        ID=19     HYD NO=BASIN.C     DA=0.0030 SQ MI
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PRINT HYD             ID=19     CODE=1
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*S*****************************************************************
*********
COMPUTE NM HYD        ID=20     HYD NO=BASIN.D    DA=0.0054 SQ MI
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PRINT HYD             ID=20     CODE=1
*S*****************************************************************
*********
COMPUTE NM HYD        ID=21     HYD NO=BASIN.E    DA=0.0022 SQ MI
                      PER A=0.0   PER B=0.0   PER C=10.0    PER D=90.0
                      TP=-0.1333 HR     MASSRAIN=-1
PRINT HYD             ID=21     CODE=1
*S*****************************************************************
*********
COMPUTE NM HYD        ID=22     HYD NO=BASIN.F    DA=0.0021 SQ MI
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                      TP=-0.1333 HR     MASSRAIN=-1
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*S*****************************************************************
*********
COMPUTE NM HYD        ID=23     HYD NO=BASIN.G    DA=0.0023 SQ MI
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                      TP=-0.1333 HR     MASSRAIN=-1
PRINT HYD             ID=23     CODE=1
*S*****************************************************************
*********
FINISH
```

APPENDIX B

STREET CAPACITY AND

STORM DRAIN INLET ANALYSIS

SUN GATE ESTATES SUBDIVISION
Internal Street Capacity Calculations
September 2004

1. **Sun Canyon Lane**
(See Basin Map)
Q = 11.34 cfs

The amount of developed runoff produced from Sub-basin A8 does not exceed the street capacity. Therefore, inlets are not required on this street. Flow will continue on the surface North East towards Morning Sun Trail. See PC stream output.

2. **Morning Sun Trail**
(See Basin Map)
Q = 27.51cfs

The total flow produced from Sub-basins A8 and A2 does not exceed the street capacity. Therefore, inlets are not required on this street. Flow will continue towards the South stub of Mountain Gate Lane. See PC stream output.

3. **Sun Mountain Trail**
(See Basin Map)
Q = 20.78 cfs

The runoff produced from bSub-basin A3 does not exceed the street capacity. Therefore, inlets are not required on this street. Flow will continue on the surface East towards Mountain Gate Lane. See PC stream output.

4. **Sun Chaser Trail**
(See Basin Map)
Q = 27.47 cfs

The runoff produced from Sub-basin A4 does not exceed the street capacity. Therefore, inlets are not required on this street. Flow will continue on the surface East towards Mountain Gate Lane. See PC stream output.

5. **Sub-basins A5**
(See Basin Map)
Q = 24.24 cfs

The flow in Wagon Gate Trail, and a portion of Sunny Sky Lane does not exceed the street capacity for those roads, therefore, inlets are not required. Flow will continue on the surface East towards Mountain Gate Lane. See PC stream output.

6. **Canyon Gate Trail**
(See Basin Map)
Q = 26.35 cfs

The total flow produced from Sub-basins A7 and A6 does not exceed the street capacity. Therefore, inlets are not required. Flow will continue East towards Mountain Gate Lane. See PC stream output.

7. **Sunny Sky Lane-Sub-basins A7 and A8**
(See Basin Map)
Q= 10.79 cfs

The flow produced by Sub-basins A7 and A8 does not exceed the street capacity. Therefore, inlets are not required. Some flow will divert East down Wagon Gate Trail towards Mountain Gate Lane, while the rest of the flow will continue South towards Canyon Gate Trail and then East towards Mountain Gate Lane. See PC stream output.

8. **Sunny Sky Lane-Sub-Basins A7 and A6**
(See Basin Map)
Q = 14.75 cfs

The flow produced by Sub-basins A7 and A8 do not exceed the street capacity. Therefore, inlets are not required. Flow will continue South towards Canyon Gate Trail and then East towards Mountain Gate Lane. See PC stream output.

9. **Mountain Gate Trail**
(See Basin Map)
Q = 143.5 cfs

The flow collected from all other Sub-basins show that the street capacity has been exceeded. Therefore, inlets are required throughout this street. See PC stream output and inlet nomograph.

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

SUN CANYON LANE

MANNING'S N= .017 SLOPE= .036

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.47	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.74	0.63	0.01	0.03
0.03	0.03	0.01	0.0	0.99	0.98	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	1.18	1.25	0.02	0.06
0.05	0.05	0.04	0.1	1.64	1.37	1.56	0.03	0.08
0.06	0.06	0.06	0.1	1.97	1.55	1.88	0.04	0.10
0.07	0.07	0.08	0.1	2.30	1.72	2.19	0.05	0.12
0.08	0.08	0.10	0.2	2.63	1.88	2.50	0.05	0.13
0.09	0.09	0.13	0.3	2.96	2.03	2.81	0.06	0.15
0.10	0.10	0.16	0.3	3.29	2.18	3.13	0.07	0.17
0.11	0.11	0.19	0.4	3.62	2.32	3.44	0.08	0.19
0.12	0.12	0.23	0.6	3.95	2.46	3.75	0.09	0.21
0.13	0.13	0.26	0.7	4.28	2.59	4.07	0.10	0.23
0.14	0.14	0.31	0.8	5.15	2.54	4.93	0.10	0.24
0.15	0.15	0.36	0.9	6.03	2.55	5.79	0.10	0.25
0.16	0.16	0.43	1.1	6.91	2.58	6.65	0.10	0.26
0.17	0.17	0.50	1.3	7.79	2.64	7.51	0.11	0.28
0.18	0.18	0.58	1.6	8.67	2.72	8.38	0.11	0.29
0.19	0.19	0.66	1.9	9.54	2.80	9.24	0.12	0.31
0.20	0.20	0.76	2.2	10.42	2.90	10.10	0.13	0.33
0.21	0.21	0.87	2.6	11.30	2.99	10.96	0.14	0.35
0.22	0.22	0.98	3.0	12.18	3.09	11.83	0.15	0.37
0.23	0.23	1.10	3.5	13.06	3.19	12.69	0.16	0.39
0.24	0.24	1.23	4.1	13.93	3.29	13.55	0.17	0.41
0.25	0.25	1.37	4.7	14.81	3.40	14.41	0.18	0.43
0.26	0.26	1.52	5.3	15.69	3.50	15.27	0.19	0.45
0.27	0.27	1.68	6.0	16.57	3.60	16.14	0.20	0.47
0.28	0.28	1.84	6.8	17.45	3.71	17.00	0.21	0.49
0.29	0.29	2.02	7.7	18.32	3.81	17.86	0.23	0.52
0.30	0.30	2.20	8.6	19.20	3.91	18.72	0.24	0.54
0.31	0.31	2.39	9.6	20.08	4.02	19.59	0.25	0.56
0.32	0.32	2.59	10.7	20.96	4.12	20.45	0.26	0.58
0.33	0.33	2.80	11.8	21.84	4.22	21.31	0.28	0.61
0.34	0.34	3.02	13.0	22.71	4.32	22.17	0.29	0.63
0.35	0.35	3.25	14.3	23.59	4.42	23.03	0.30	0.65
0.36	0.36	3.48	15.7	24.47	4.52	23.90	0.32	0.68
0.37	0.37	3.72	17.2	25.35	4.62	24.76	0.33	0.70
0.38	0.38	3.98	18.7	26.23	4.71	25.62	0.35	0.73
0.39	0.39	4.24	20.4	27.10	4.81	26.48	0.36	0.75
0.40	0.40	4.50	22.1	27.98	4.91	27.35	0.37	0.77
0.41	0.41	4.78	23.9	28.86	5.00	28.21	0.39	0.80
0.42	0.42	5.06	26.3	28.88	5.20	28.21	0.42	0.84
0.43	0.43	5.35	28.8	28.90	5.38	28.22	0.45	0.88

ACTUAL
$G_x = 11.34$
ROLL CURB THROUGH OU

STREET CAPACITY

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

SUN CANYON LANE

MANNING'S N= .017 SLOPE= .0074

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH INC	FLOW AREA	FLOW RATE	WETTED PER	FLOW VEL	TOPWID	VEL HEAD	ENERGY HEAD
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.01	0.01	0.00	0.0	0.33	0.21	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.34	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.44	0.94	0.00	0.03
0.04	0.04	0.03	0.0	1.32	0.54	1.25	0.00	0.04
0.05	0.05	0.04	0.0	1.64	0.62	1.56	0.01	0.06
0.06	0.06	0.06	0.0	1.97	0.70	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	0.78	2.19	0.01	0.08
0.08	0.08	0.10	0.1	2.63	0.85	2.50	0.01	0.09
0.09	0.09	0.13	0.1	2.96	0.92	2.81	0.01	0.10
0.10	0.10	0.16	0.2	3.29	0.99	3.13	0.02	0.12
0.11	0.11	0.19	0.2	3.62	1.05	3.44	0.02	0.13
0.12	0.12	0.23	0.3	3.95	1.11	3.75	0.02	0.14
0.13	0.13	0.26	0.3	4.28	1.18	4.07	0.02	0.15
0.14	0.14	0.31	0.4	5.15	1.15	4.93	0.02	0.16
0.15	0.15	0.36	0.4	6.03	1.15	5.79	0.02	0.17
0.16	0.16	0.43	0.5	6.91	1.17	6.65	0.02	0.18
0.17	0.17	0.50	0.6	7.79	1.20	7.51	0.02	0.19
0.18	0.18	0.58	0.7	8.67	1.23	8.38	0.02	0.20
0.19	0.19	0.66	0.8	9.54	1.27	9.24	0.03	0.22
0.20	0.20	0.76	1.0	10.42	1.31	10.10	0.03	0.23
0.21	0.21	0.87	1.2	11.30	1.36	10.96	0.03	0.24
0.22	0.22	0.98	1.4	12.18	1.40	11.83	0.03	0.25
0.23	0.23	1.10	1.6	13.06	1.45	12.69	0.03	0.26
0.24	0.24	1.23	1.8	13.93	1.49	13.55	0.03	0.27
0.25	0.25	1.37	2.1	14.81	1.54	14.41	0.04	0.29
0.26	0.26	1.52	2.4	15.69	1.59	15.27	0.04	0.30
0.27	0.27	1.68	2.7	16.57	1.63	16.14	0.04	0.31
0.28	0.28	1.84	3.1	17.45	1.68	17.00	0.04	0.32
0.29	0.29	2.02	3.5	18.32	1.73	17.86	0.05	0.34
0.30	0.30	2.20	3.9	19.20	1.77	18.72	0.05	0.35
0.31	0.31	2.39	4.4	20.08	1.82	19.59	0.05	0.36
0.32	0.32	2.59	4.8	20.96	1.87	20.45	0.05	0.37
0.33	0.33	2.80	5.4	21.84	1.91	21.31	0.06	0.39
0.34	0.34	3.02	5.9	22.71	1.96	22.17	0.06	0.40
0.35	0.35	3.25	6.5	23.59	2.00	23.03	0.06	0.41
0.36	0.36	3.48	7.1	24.47	2.05	23.90	0.07	0.43
0.37	0.37	3.72	7.8	25.35	2.09	24.76	0.07	0.44
0.38	0.38	3.98	8.5	26.23	2.14	25.62	0.07	0.45
0.39	0.39	4.24	9.2	27.10	2.18	26.48	0.07	0.46
0.40	0.40	4.50	10.0	27.98	2.23	27.35	0.08	0.48
0.41	0.41	4.78	10.8	28.86	2.27	28.21	0.08	0.49
0.42	0.42	5.06	11.9	28.88	2.36	28.21	0.09	0.51
0.43	0.43	5.35	13.1	28.90	2.44	28.22	0.09	0.52

ACTUAL G = 11.34 ?
ROLL CURB THROUGH CUT

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	15.4	28.94	2.61	28.23	0.11	0.56	
0.46	0.46	6.19	16.7	28.96	2.69	28.23	0.11	0.57	
0.47	0.47	6.48	17.9	28.98	2.77	28.24	0.12	0.59	
0.48	0.48	6.76	19.2	29.01	2.85	28.24	0.13	0.61	
0.49	0.49	7.04	20.6	29.03	2.92	28.25	0.13	0.62	
0.50	0.50	7.32	22.0	29.05	3.00	28.25	0.14	0.64	
0.51	0.51	7.61	23.4	29.07	3.08	28.26	0.15	0.66	
0.52	0.52	7.89	24.9	29.09	3.15	28.26	0.15	0.67	
0.53	0.53	8.17	26.3	29.11	3.22	28.27	0.16	0.69	
0.54	0.54	8.45	27.9	29.13	3.30	28.27	0.17	0.71	
0.55	0.55	8.74	29.4	29.15	3.37	28.28	0.18	0.73	
0.56	0.56	9.02	31.0	29.17	3.44	28.28	0.18	0.74	
0.57	0.57	9.30	32.6	29.19	3.51	28.29	0.19	0.76	
0.58	0.58	9.59	34.3	29.21	3.58	28.29	0.20	0.78	
0.59	0.59	9.87	36.0	29.23	3.65	28.30	0.21	0.80	
0.60	0.60	10.15	37.7	29.25	3.71	28.30	0.21	0.81	
0.61	0.61	10.43	39.4	29.27	3.78	28.31	0.22	0.83	
0.62	0.62	10.72	41.2	29.29	3.85	28.31	0.23	0.85	
0.63	0.63	11.00	43.0	29.31	3.91	28.32	0.24	0.87	STREET CAPACITY
0.64	0.64	11.28	44.9	29.34	3.98	28.32	0.25	0.89	
0.65	0.65	11.57	46.7	29.36	4.04	28.33	0.25	0.90	
0.66	0.66	11.85	48.6	29.38	4.11	28.33	0.26	0.92	
0.67	0.67	12.13	50.6	29.40	4.17	28.34	0.27	0.94	
0.68	0.68	12.42	51.4	30.44	4.14	30.30	0.27	0.95	
0.69	0.69	12.72	52.3	31.49	4.11	31.34	0.26	0.95	
0.70	0.70	13.06	52.5	33.45	4.02	32.39	0.25	0.95	
0.71	0.71	13.39	53.6	34.50	4.00	33.44	0.25	0.96	
0.72	0.72	13.73	54.7	35.54	3.99	34.48	0.25	0.97	
0.73	0.73	14.08	56.0	36.59	3.98	35.53	0.25	0.98	
0.74	0.74	14.44	57.3	37.64	3.97	36.58	0.24	0.98	
0.75	0.75	14.81	58.7	38.68	3.96	37.62	0.24	0.99	
0.76	0.76	15.19	60.2	39.73	3.96	38.67	0.24	1.00	
0.77	0.77	15.58	61.7	40.78	3.96	39.72	0.24	1.01	
0.78	0.78	15.98	63.3	41.83	3.96	40.77	0.24	1.02	
0.79	0.79	16.40	65.0	42.87	3.96	41.81	0.24	1.03	
0.80	0.80	16.82	66.7	43.92	3.97	42.86	0.24	1.04	
0.81	0.81	17.25	68.5	44.97	3.97	43.91	0.24	1.05	
0.82	0.82	17.70	70.4	46.01	3.98	44.95	0.25	1.07	
0.83	0.83	18.15	72.3	47.06	3.98	46.00	0.25	1.08	

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

SUNNY SKY LANE

MANNING'S N= .017 SLOPE= .015

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.30	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.48	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.63	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	0.76	1.25	0.01	0.05
0.05	0.05	0.04	0.0	1.64	0.89	1.56	0.01	0.06
0.06	0.06	0.06	0.1	1.97	1.00	1.88	0.02	0.08
0.07	0.07	0.08	0.1	2.30	1.11	2.19	0.02	0.09
0.08	0.08	0.10	0.1	2.63	1.21	2.50	0.02	0.10
0.09	0.09	0.13	0.2	2.96	1.31	2.81	0.03	0.12
0.10	0.10	0.16	0.2	3.29	1.40	3.13	0.03	0.13
0.11	0.11	0.19	0.3	3.62	1.50	3.44	0.03	0.14
0.12	0.12	0.23	0.4	3.95	1.59	3.75	0.04	0.16
0.13	0.13	0.26	0.4	4.28	1.67	4.07	0.04	0.17
0.14	0.14	0.31	0.5	5.15	1.64	4.93	0.04	0.18
0.15	0.15	0.36	0.6	6.03	1.64	5.79	0.04	0.19
0.16	0.16	0.43	0.7	6.91	1.67	6.65	0.04	0.20
0.17	0.17	0.50	0.8	7.79	1.71	7.51	0.05	0.22
0.18	0.18	0.58	1.0	8.67	1.76	8.38	0.05	0.23
0.19	0.19	0.66	1.2	9.54	1.81	9.24	0.05	0.24
0.20	0.20	0.76	1.4	10.42	1.87	10.10	0.05	0.25
0.21	0.21	0.87	1.7	11.30	1.93	10.96	0.06	0.27
0.22	0.22	0.98	2.0	12.18	1.99	11.83	0.06	0.28
0.23	0.23	1.10	2.3	13.06	2.06	12.69	0.07	0.30
0.24	0.24	1.23	2.6	13.93	2.13	13.55	0.07	0.31
0.25	0.25	1.37	3.0	14.81	2.19	14.41	0.07	0.32
0.26	0.26	1.52	3.4	15.69	2.26	15.27	0.08	0.34
0.27	0.27	1.68	3.9	16.57	2.33	16.14	0.08	0.35
0.28	0.28	1.84	4.4	17.45	2.39	17.00	0.09	0.37
0.29	0.29	2.02	5.0	18.32	2.46	17.86	0.09	0.38
0.30	0.30	2.20	5.6	19.20	2.53	18.72	0.10	0.40
0.31	0.31	2.39	6.2	20.08	2.59	19.59	0.10	0.41
0.32	0.32	2.59	6.9	20.96	2.66	20.45	0.11	0.43
0.33	0.33	2.80	7.6	21.84	2.72	21.31	0.12	0.45
0.34	0.34	3.02	8.4	22.71	2.79	22.17	0.12	0.46
0.35	0.35	3.25	9.3	23.59	2.85	23.03	0.13	0.48
0.36	0.36	3.48	10.2	24.47	2.92	23.90	0.13	0.49
0.37	0.37	3.72	11.1	25.35	2.98	24.76	0.14	0.51
0.38	0.38	3.98	12.1	26.23	3.04	25.62	0.14	0.52
0.39	0.39	4.24	13.2	27.10	3.11	26.48	0.15	0.54
0.40	0.40	4.50	14.3	27.98	3.17	27.35	0.16	0.56
0.41	0.41	4.78	15.4	28.86	3.23	28.21	0.16	0.57
0.42	0.42	5.06	17.0	28.88	3.35	28.21	0.17	0.59
0.43	0.43	5.35	18.6	28.90	3.48	28.22	0.19	0.62

ROLL CURB LIMIT @ LOT 12
ACTUAL Q = 10.13

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	21.9	28.94	3.71	28.23	0.21	0.66	
0.46	0.46	6.19	23.7	28.96	3.83	28.23	0.23	0.69	
0.47	0.47	6.48	25.5	28.98	3.94	28.24	0.24	0.71	
0.48	0.48	6.76	27.4	29.01	4.05	28.24	0.26	0.74	
0.49	0.49	7.04	29.3	29.03	4.16	28.25	0.27	0.76	
0.50	0.50	7.32	31.3	29.05	4.27	28.25	0.28	0.78	
0.51	0.51	7.61	33.3	29.07	4.38	28.26	0.30	0.81	
0.52	0.52	7.89	35.4	29.09	4.49	28.26	0.31	0.83	
0.53	0.53	8.17	37.5	29.11	4.59	28.27	0.33	0.86	STREET CAPACITY
0.54	0.54	8.45	39.7	29.13	4.69	28.27	0.34	0.88	
0.55	0.55	8.74	41.9	29.15	4.79	28.28	0.36	0.91	
0.56	0.56	9.02	44.2	29.17	4.90	28.28	0.37	0.93	
0.57	0.57	9.30	46.5	29.19	4.99	28.29	0.39	0.96	
0.58	0.58	9.59	48.8	29.21	5.09	28.29	0.40	0.98	
0.59	0.59	9.87	51.2	29.23	5.19	28.30	0.42	1.01	
0.60	0.60	10.15	53.7	29.25	5.29	28.30	0.43	1.03	
0.61	0.61	10.43	56.2	29.27	5.38	28.31	0.45	1.06	
0.62	0.62	10.72	58.7	29.29	5.48	28.31	0.47	1.09	
0.63	0.63	11.00	61.3	29.31	5.57	28.32	0.48	1.11	
0.64	0.64	11.28	63.9	29.34	5.66	28.32	0.50	1.14	
0.65	0.65	11.57	66.6	29.36	5.75	28.33	0.51	1.16	
0.66	0.66	11.85	69.3	29.38	5.84	28.33	0.53	1.19	
0.67	0.67	12.13	72.0	29.40	5.93	28.34	0.55	1.22	
0.68	0.68	12.42	73.2	30.44	5.89	30.30	0.54	1.22	
0.69	0.69	12.72	74.4	31.49	5.85	31.34	0.53	1.22	
0.70	0.70	13.06	74.7	33.45	5.72	32.39	0.51	1.21	
0.71	0.71	13.39	76.3	34.50	5.70	33.44	0.50	1.21	
0.72	0.72	13.73	77.9	35.54	5.68	34.48	0.50	1.22	
0.73	0.73	14.08	79.7	36.59	5.66	35.53	0.50	1.23	
0.74	0.74	14.44	81.6	37.64	5.65	36.58	0.50	1.24	
0.75	0.75	14.81	83.6	38.68	5.64	37.62	0.49	1.24	
0.76	0.76	15.19	85.7	39.73	5.64	38.67	0.49	1.25	
0.77	0.77	15.58	87.8	40.78	5.64	39.72	0.49	1.26	
0.78	0.78	15.98	90.1	41.83	5.64	40.77	0.49	1.27	
0.79	0.79	16.40	92.5	42.87	5.64	41.81	0.49	1.28	
0.80	0.80	16.82	95.0	43.92	5.65	42.86	0.50	1.30	
0.81	0.81	17.25	97.5	44.97	5.65	43.91	0.50	1.31	
0.82	0.82	17.70	100.2	46.01	5.66	44.95	0.50	1.32	
0.83	0.83	18.15	103.0	47.06	5.67	46.00	0.50	1.33	

A7

$\frac{7.88}{12} = 0.66$ cfs/lot

0.66×8 lots $= 5.3$ cfs

A5

$\frac{24.24}{35} = 0.69$ cfs/lot

$0.69 \times 7 = 4.8$ cfs

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

SUNNY SKY LANE

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH INC	FLOW AREA	FLOW RATE	WETTED PER	FLOW VEL	TOPWID	VEL HEAD	ENERGY HEAD
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.01	0.01	0.00	0.0	0.33	0.19	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.30	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.40	0.94	0.00	0.03
0.04	0.04	0.03	0.0	1.32	0.48	1.25	0.00	0.04
0.05	0.05	0.04	0.0	1.64	0.56	1.56	0.00	0.05
0.06	0.06	0.06	0.0	1.97	0.63	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	0.70	2.19	0.01	0.08
0.08	0.08	0.10	0.1	2.63	0.77	2.50	0.01	0.09
0.09	0.09	0.13	0.1	2.96	0.83	2.81	0.01	0.10
0.10	0.10	0.16	0.1	3.29	0.89	3.13	0.01	0.11
0.11	0.11	0.19	0.2	3.62	0.95	3.44	0.01	0.12
0.12	0.12	0.23	0.2	3.95	1.00	3.75	0.02	0.14
0.13	0.13	0.26	0.3	4.28	1.06	4.07	0.02	0.15
0.14	0.14	0.31	0.3	5.15	1.04	4.93	0.02	0.16
0.15	0.15	0.36	0.4	6.03	1.04	5.79	0.02	0.17
0.16	0.16	0.43	0.4	6.91	1.06	6.65	0.02	0.18
0.17	0.17	0.50	0.5	7.79	1.08	7.51	0.02	0.19
0.18	0.18	0.58	0.6	8.67	1.11	8.38	0.02	0.20
0.19	0.19	0.66	0.8	9.54	1.14	9.24	0.02	0.21
0.20	0.20	0.76	0.9	10.42	1.18	10.10	0.02	0.22
0.21	0.21	0.87	1.1	11.30	1.22	10.96	0.02	0.23
0.22	0.22	0.98	1.2	12.18	1.26	11.83	0.02	0.24
0.23	0.23	1.10	1.4	13.06	1.30	12.69	0.03	0.26
0.24	0.24	1.23	1.7	13.93	1.34	13.55	0.03	0.27
0.25	0.25	1.37	1.9	14.81	1.39	14.41	0.03	0.28
0.26	0.26	1.52	2.2	15.69	1.43	15.27	0.03	0.29
0.27	0.27	1.68	2.5	16.57	1.47	16.14	0.03	0.30
0.28	0.28	1.84	2.8	17.45	1.51	17.00	0.04	0.32
0.29	0.29	2.02	3.1	18.32	1.56	17.86	0.04	0.33
0.30	0.30	2.20	3.5	19.20	1.60	18.72	0.04	0.34
0.31	0.31	2.39	3.9	20.08	1.64	19.59	0.04	0.35
0.32	0.32	2.59	4.4	20.96	1.68	20.45	0.04	0.36
0.33	0.33	2.80	4.8	21.84	1.72	21.31	0.05	0.38
0.34	0.34	3.02	5.3	22.71	1.76	22.17	0.05	0.39
0.35	0.35	3.25	5.9	23.59	1.80	23.03	0.05	0.40
0.36	0.36	3.48	6.4	24.47	1.84	23.90	0.05	0.41
0.37	0.37	3.72	7.0	25.35	1.88	24.76	0.06	0.43
0.38	0.38	3.98	7.7	26.23	1.92	25.62	0.06	0.44
0.39	0.39	4.24	8.3	27.10	1.96	26.48	0.06	0.45
0.40	0.40	4.50	9.0	27.98	2.00	27.35	0.06	0.46
0.41	0.41	4.78	9.8	28.86	2.04	28.21	0.06	0.47
0.42	0.42	5.06	10.7	28.88	2.12	28.21	0.07	0.49
0.43	0.43	5.35	11.8	28.90	2.20	28.22	0.08	0.51

ROLL CURB LIMIT @ LOT 124

ACTUAL G = 13.45

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	13.9	28.94	2.35	28.23	0.09	0.54	
0.46	0.46	6.19	15.0	28.96	2.42	28.23	0.09	0.55	
0.47	0.47	6.48	16.1	28.98	2.49	28.24	0.10	0.57	
0.48	0.48	6.76	17.3	29.01	2.56	28.24	0.10	0.58	
0.49	0.49	7.04	18.5	29.03	2.63	28.25	0.11	0.60	
0.50	0.50	7.32	19.8	29.05	2.70	28.25	0.11	0.61	
0.51	0.51	7.61	21.1	29.07	2.77	28.26	0.12	0.63	
0.52	0.52	7.89	22.4	29.09	2.84	28.26	0.12	0.64	
0.53	0.53	8.17	23.7	29.11	2.90	28.27	0.13	0.66	
0.54	0.54	8.45	25.1	29.13	2.97	28.27	0.14	0.68	
0.55	0.55	8.74	26.5	29.15	3.03	28.28	0.14	0.69	
0.56	0.56	9.02	27.9	29.17	3.10	28.28	0.15	0.71	
0.57	0.57	9.30	29.4	29.19	3.16	28.29	0.15	0.72	
0.58	0.58	9.59	30.9	29.21	3.22	28.29	0.16	0.74	
0.59	0.59	9.87	32.4	29.23	3.28	28.30	0.17	0.76	
0.60	0.60	10.15	33.9	29.25	3.34	28.30	0.17	0.77	
0.61	0.61	10.43	35.5	29.27	3.40	28.31	0.18	0.79	
0.62	0.62	10.72	37.1	29.29	3.46	28.31	0.19	0.81	
0.63	0.63	11.00	38.8	29.31	3.52	28.32	0.19	0.82	
0.64	0.64	11.28	40.4	29.34	3.58	28.32	0.20	0.84	
0.65	0.65	11.57	42.1	29.36	3.64	28.33	0.21	0.86	
0.66	0.66	11.85	43.8	29.38	3.70	28.33	0.21	0.87	STREET CAPACITY
0.67	0.67	12.13	45.5	29.40	3.75	28.34	0.22	0.89	
0.68	0.68	12.42	46.3	30.44	3.72	30.30	0.22	0.90	
0.69	0.69	12.72	47.1	31.49	3.70	31.34	0.21	0.90	
0.70	0.70	13.06	47.2	33.45	3.62	32.39	0.20	0.90	
0.71	0.71	13.39	48.2	34.50	3.60	33.44	0.20	0.91	
0.72	0.72	13.73	49.3	35.54	3.59	34.48	0.20	0.92	
0.73	0.73	14.08	50.4	36.59	3.58	35.53	0.20	0.93	
0.74	0.74	14.44	51.6	37.64	3.57	36.58	0.20	0.94	
0.75	0.75	14.81	52.9	38.68	3.57	37.62	0.20	0.95	
0.76	0.76	15.19	54.2	39.73	3.57	38.67	0.20	0.96	
0.77	0.77	15.58	55.6	40.78	3.57	39.72	0.20	0.97	
0.78	0.78	15.98	57.0	41.83	3.57	40.77	0.20	0.98	
0.79	0.79	16.40	58.5	42.87	3.57	41.81	0.20	0.99	
0.80	0.80	16.82	60.1	43.92	3.57	42.86	0.20	1.00	
0.81	0.81	17.25	61.7	44.97	3.58	43.91	0.20	1.01	
0.82	0.82	17.70	63.4	46.01	3.58	44.95	0.20	1.02	
0.83	0.83	18.15	65.1	47.06	3.59	46.00	0.20	1.03	

A7/A5

Q=10.13cfs

A7

$\frac{7.88}{12} = 0.66$

$0.66 \times 4 = 2.64$cfs

A6

$\frac{18.47}{27} = 0.68$

$.68 \times 1 = .68$cfs

Q = 13.45cfs

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

SUN CHASER TRAIL

MANNING'S N= .017 SLOPE= .0284

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH INC	FLOW AREA	FLOW RATE	WETTED PER	FLOW VEL	TOPWID	VEL HEAD	ENERGY HEAD
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.01	0.01	0.00	0.0	0.33	0.42	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.66	0.63	0.01	0.03
0.03	0.03	0.01	0.0	0.99	0.87	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	1.05	1.25	0.02	0.06
0.05	0.05	0.04	0.0	1.64	1.22	1.56	0.02	0.07
0.06	0.06	0.06	0.1	1.97	1.38	1.88	0.03	0.09
0.07	0.07	0.08	0.1	2.30	1.52	2.19	0.04	0.11
0.08	0.08	0.10	0.2	2.63	1.67	2.50	0.04	0.12
0.09	0.09	0.13	0.2	2.96	1.80	2.81	0.05	0.14
0.10	0.10	0.16	0.3	3.29	1.93	3.13	0.06	0.16
0.11	0.11	0.19	0.4	3.62	2.06	3.44	0.07	0.18
0.12	0.12	0.23	0.5	3.95	2.18	3.75	0.07	0.19
0.13	0.13	0.26	0.6	4.28	2.30	4.07	0.08	0.21
0.14	0.14	0.31	0.7	5.15	2.26	4.93	0.08	0.22
0.15	0.15	0.36	0.8	6.03	2.26	5.79	0.08	0.23
0.16	0.16	0.43	1.0	6.91	2.30	6.65	0.08	0.24
0.17	0.17	0.50	1.2	7.79	2.35	7.51	0.09	0.26
0.18	0.18	0.58	1.4	8.67	2.42	8.38	0.09	0.27
0.19	0.19	0.66	1.7	9.54	2.49	9.24	0.10	0.29
0.20	0.20	0.76	2.0	10.42	2.57	10.10	0.10	0.30
0.21	0.21	0.87	2.3	11.30	2.66	10.96	0.11	0.32
0.22	0.22	0.98	2.7	12.18	2.74	11.83	0.12	0.34
0.23	0.23	1.10	3.1	13.06	2.83	12.69	0.12	0.35
0.24	0.24	1.23	3.6	13.93	2.93	13.55	0.13	0.37
0.25	0.25	1.37	4.1	14.81	3.02	14.41	0.14	0.39
0.26	0.26	1.52	4.7	15.69	3.11	15.27	0.15	0.41
0.27	0.27	1.68	5.4	16.57	3.20	16.14	0.16	0.43
0.28	0.28	1.84	6.1	17.45	3.29	17.00	0.17	0.45
0.29	0.29	2.02	6.8	18.32	3.38	17.86	0.18	0.47
0.30	0.30	2.20	7.7	19.20	3.48	18.72	0.19	0.49
0.31	0.31	2.39	8.5	20.08	3.57	19.59	0.20	0.51
0.32	0.32	2.59	9.5	20.96	3.66	20.45	0.21	0.53
0.33	0.33	2.80	10.5	21.84	3.75	21.31	0.22	0.55
0.34	0.34	3.02	11.6	22.71	3.84	22.17	0.23	0.57
0.35	0.35	3.25	12.7	23.59	3.93	23.03	0.24	0.59
0.36	0.36	3.48	14.0	24.47	4.01	23.90	0.25	0.61
0.37	0.37	3.72	15.3	25.35	4.10	24.76	0.26	0.63
0.38	0.38	3.98	16.6	26.23	4.19	25.62	0.27	0.65
0.39	0.39	4.24	18.1	27.10	4.27	26.48	0.28	0.67
0.40	0.40	4.50	19.6	27.98	4.36	27.35	0.30	0.70
0.41	0.41	4.78	21.3	28.86	4.44	28.21	0.31	0.72
0.42	0.42	5.06	23.4	28.88	4.62	28.21	0.33	0.75
0.43	0.43	5.35	25.6	28.90	4.78	28.22	0.36	0.79

ROLL CURB LIMIT @ LOT 1

ACTUAL Q = 27.47

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.45	0.45	5.91	30.2	28.94	5.11	28.23	0.41	0.86
0.46	0.46	6.19	32.6	28.96	5.27	28.23	0.43	0.89
0.47	0.47	6.48	35.1	28.98	5.42	28.24	0.46	0.93
0.48	0.48	6.76	37.7	29.01	5.58	28.24	0.48	0.96
0.49	0.49	7.04	40.3	29.03	5.73	28.25	0.51	1.00
0.50	0.50	7.32	43.1	29.05	5.88	28.25	0.54	1.04
0.51	0.51	7.61	45.8	29.07	6.03	28.26	0.56	1.07
0.52	0.52	7.89	48.7	29.09	6.17	28.26	0.59	1.11
0.53	0.53	8.17	51.6	29.11	6.32	28.27	0.62	1.15
0.54	0.54	8.45	54.6	29.13	6.46	28.27	0.65	1.19
0.55	0.55	8.74	57.6	29.15	6.60	28.28	0.68	1.23
0.56	0.56	9.02	60.8	29.17	6.74	28.28	0.70	1.26
0.57	0.57	9.30	63.9	29.19	6.87	28.29	0.73	1.30
0.58	0.58	9.59	67.2	29.21	7.01	28.29	0.76	1.34
0.59	0.59	9.87	70.5	29.23	7.14	28.30	0.79	1.38
0.60	0.60	10.15	73.8	29.25	7.27	28.30	0.82	1.42
0.61	0.61	10.43	77.3	29.27	7.41	28.31	0.85	1.46
0.62	0.62	10.72	80.8	29.29	7.54	28.31	0.88	1.50
0.63	0.63	11.00	84.3	29.31	7.66	28.32	0.91	1.54
0.64	0.64	11.28	87.9	29.34	7.79	28.32	0.94	1.58
0.65	0.65	11.57	91.6	29.36	7.92	28.33	0.97	1.62
0.66	0.66	11.85	95.3	29.38	8.04	28.33	1.00	1.66
0.67	0.67	12.13	99.1	29.40	8.17	28.34	1.04	1.71
0.68	0.68	12.42	100.7	30.44	8.10	30.30	1.02	1.70
0.69	0.69	12.72	102.4	31.49	8.05	31.34	1.01	1.70
0.70	0.70	13.06	102.8	33.45	7.87	32.39	0.96	1.66
0.71	0.71	13.39	104.9	34.50	7.84	33.44	0.95	1.66
0.72	0.72	13.73	107.2	35.54	7.81	34.48	0.95	1.67
0.73	0.73	14.08	109.7	36.59	7.79	35.53	0.94	1.67
0.74	0.74	14.44	112.3	37.64	7.78	36.58	0.94	1.68
0.75	0.75	14.81	115.0	38.68	7.77	37.62	0.94	1.69
0.76	0.76	15.19	117.9	39.73	7.76	38.67	0.94	1.70
0.77	0.77	15.58	120.9	40.78	7.76	39.72	0.93	1.70
0.78	0.78	15.98	124.0	41.83	7.76	40.77	0.93	1.71
0.79	0.79	16.40	127.3	42.87	7.76	41.81	0.94	1.73
0.80	0.80	16.82	130.7	43.92	7.77	42.86	0.94	1.74
0.81	0.81	17.25	134.2	44.97	7.78	43.91	0.94	1.75
0.82	0.82	17.70	137.9	46.01	7.79	44.95	0.94	1.76
0.83	0.83	18.15	141.7	47.06	7.81	46.00	0.95	1.78

STREET CAPACITY

$\frac{27.47}{36} = 0.76 \frac{cfs}{lots}$

$\frac{9.5}{0.76} = 12.5 \text{ lots}$

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

SUN MOUNTAIN TRAIL

MANNING'S N= .017 SLOPE= .0193

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH INC	FLOW AREA	FLOW RATE	WETTED PER	FLOW VEL	TOPWID	VEL HEAD	ENERGY HEAD
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.01	0.01	0.00	0.0	0.33	0.34	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.54	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.71	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	0.87	1.25	0.01	0.05
0.05	0.05	0.04	0.0	1.64	1.00	1.56	0.02	0.07
0.06	0.06	0.06	0.1	1.97	1.13	1.88	0.02	0.08
0.07	0.07	0.08	0.1	2.30	1.26	2.19	0.02	0.09
0.08	0.08	0.10	0.1	2.63	1.37	2.50	0.03	0.11
0.09	0.09	0.13	0.2	2.96	1.49	2.81	0.03	0.12
0.10	0.10	0.16	0.2	3.29	1.59	3.13	0.04	0.14
0.11	0.11	0.19	0.3	3.62	1.70	3.44	0.04	0.15
0.12	0.12	0.23	0.4	3.95	1.80	3.75	0.05	0.17
0.13	0.13	0.26	0.5	4.28	1.90	4.07	0.06	0.19
0.14	0.14	0.31	0.6	5.15	1.86	4.93	0.05	0.19
0.15	0.15	0.36	0.7	6.03	1.86	5.79	0.05	0.20
0.16	0.16	0.43	0.8	6.91	1.89	6.65	0.06	0.22
0.17	0.17	0.50	1.0	7.79	1.94	7.51	0.06	0.23
0.18	0.18	0.58	1.1	8.67	1.99	8.38	0.06	0.24
0.19	0.19	0.66	1.4	9.54	2.05	9.24	0.07	0.26
0.20	0.20	0.76	1.6	10.42	2.12	10.10	0.07	0.27
0.21	0.21	0.87	1.9	11.30	2.19	10.96	0.07	0.28
0.22	0.22	0.98	2.2	12.18	2.26	11.83	0.08	0.30
0.23	0.23	1.10	2.6	13.06	2.34	12.69	0.08	0.31
0.24	0.24	1.23	3.0	13.93	2.41	13.55	0.09	0.33
0.25	0.25	1.37	3.4	14.81	2.49	14.41	0.10	0.35
0.26	0.26	1.52	3.9	15.69	2.56	15.27	0.10	0.36
0.27	0.27	1.68	4.4	16.57	2.64	16.14	0.11	0.38
0.28	0.28	1.84	5.0	17.45	2.71	17.00	0.11	0.39
0.29	0.29	2.02	5.6	18.32	2.79	17.86	0.12	0.41
0.30	0.30	2.20	6.3	19.20	2.87	18.72	0.13	0.43
0.31	0.31	2.39	7.0	20.08	2.94	19.59	0.13	0.44
0.32	0.32	2.59	7.8	20.96	3.02	20.45	0.14	0.46
0.33	0.33	2.80	8.7	21.84	3.09	21.31	0.15	0.48
0.34	0.34	3.02	9.5	22.71	3.16	22.17	0.16	0.50
0.35	0.35	3.25	10.5	23.59	3.24	23.03	0.16	0.51
0.36	0.36	3.48	11.5	24.47	3.31	23.90	0.17	0.53
0.37	0.37	3.72	12.6	25.35	3.38	24.76	0.18	0.55
0.38	0.38	3.98	13.7	26.23	3.45	25.62	0.19	0.57
0.39	0.39	4.24	14.9	27.10	3.52	26.48	0.19	0.58
0.40	0.40	4.50	16.2	27.98	3.59	27.35	0.20	0.60
0.41	0.41	4.78	17.5	28.86	3.66	28.21	0.21	0.62
0.42	0.42	5.06	19.3	28.88	3.80	28.21	0.22	0.64
0.43	0.43	5.35	21.1	28.90	3.94	28.22	0.24	0.67

ROLL CURB LIMIT @ LOT 93

ACTUAL Q = 20.7S

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.45	0.45	5.91	24.9	28.94	4.21	28.23	0.28	0.73
0.46	0.46	6.19	26.9	28.96	4.34	28.23	0.29	0.75
0.47	0.47	6.48	29.0	28.98	4.47	28.24	0.31	0.78
0.48	0.48	6.76	31.1	29.01	4.60	28.24	0.33	0.81
0.49	0.49	7.04	33.3	29.03	4.72	28.25	0.35	0.84
0.50	0.50	7.32	35.5	29.05	4.85	28.25	0.36	0.86
0.51	0.51	7.61	37.8	29.07	4.97	28.26	0.38	0.89
0.52	0.52	7.89	40.1	29.09	5.09	28.26	0.40	0.92
0.53	0.53	8.17	42.5	29.11	5.21	28.27	0.42	0.95
0.54	0.54	8.45	45.0	29.13	5.32	28.27	0.44	0.98
0.55	0.55	8.74	47.5	29.15	5.44	28.28	0.46	1.01
0.56	0.56	9.02	50.1	29.17	5.55	28.28	0.48	1.04
0.57	0.57	9.30	52.7	29.19	5.67	28.29	0.50	1.07
0.58	0.58	9.59	55.4	29.21	5.78	28.29	0.52	1.10
0.59	0.59	9.87	58.1	29.23	5.89	28.30	0.54	1.13
0.60	0.60	10.15	60.9	29.25	6.00	28.30	0.56	1.16
0.61	0.61	10.43	63.7	29.27	6.10	28.31	0.58	1.19
0.62	0.62	10.72	66.6	29.29	6.21	28.31	0.60	1.22
0.63	0.63	11.00	69.5	29.31	6.32	28.32	0.62	1.25
0.64	0.64	11.28	72.5	29.34	6.42	28.32	0.64	1.28
0.65	0.65	11.57	75.5	29.36	6.53	28.33	0.66	1.31
0.66	0.66	11.85	78.6	29.38	6.63	28.33	0.68	1.34
0.67	0.67	12.13	81.7	29.40	6.73	28.34	0.70	1.37
0.68	0.68	12.42	83.0	30.44	6.68	30.30	0.69	1.37
0.69	0.69	12.72	84.4	31.49	6.64	31.34	0.68	1.37
0.70	0.70	13.06	84.7	33.45	6.49	32.39	0.65	1.35
0.71	0.71	13.39	86.5	34.50	6.46	33.44	0.65	1.36
0.72	0.72	13.73	88.4	35.54	6.44	34.48	0.64	1.36
0.73	0.73	14.08	90.4	36.59	6.42	35.53	0.64	1.37
0.74	0.74	14.44	92.6	37.64	6.41	36.58	0.64	1.38
0.75	0.75	14.81	94.8	38.68	6.40	37.62	0.64	1.39
0.76	0.76	15.19	97.2	39.73	6.40	38.67	0.64	1.40
0.77	0.77	15.58	99.6	40.78	6.39	39.72	0.63	1.40
0.78	0.78	15.98	102.2	41.83	6.40	40.77	0.64	1.42
0.79	0.79	16.40	104.9	42.87	6.40	41.81	0.64	1.43
0.80	0.80	16.82	107.7	43.92	6.40	42.86	0.64	1.44
0.81	0.81	17.25	110.6	44.97	6.41	43.91	0.64	1.45
0.82	0.82	17.70	113.7	46.01	6.42	44.95	0.64	1.46
0.83	0.83	18.15	116.8	47.06	6.44	46.00	0.64	1.47

STREET CAPACITY

$\frac{20.78}{31} = 0.67 \frac{cfs}{lot}$

$\frac{11.5}{0.67} = 17.16$ lots

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

SUN MOUNTAIN TRAIL

MANNING'S N= .017 SLOPE= .0279

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH INC	FLOW AREA	FLOW RATE	WETTED PER	FLOW VEL	TOPWID	VEL HEAD	ENERGY HEAD
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.01	0.01	0.00	0.0	0.33	0.41	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.66	0.63	0.01	0.03
0.03	0.03	0.01	0.0	0.99	0.86	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	1.04	1.25	0.02	0.06
0.05	0.05	0.04	0.0	1.64	1.21	1.56	0.02	0.07
0.06	0.06	0.06	0.1	1.97	1.36	1.88	0.03	0.09
0.07	0.07	0.08	0.1	2.30	1.51	2.19	0.04	0.11
0.08	0.08	0.10	0.2	2.63	1.65	2.50	0.04	0.12
0.09	0.09	0.13	0.2	2.96	1.79	2.81	0.05	0.14
0.10	0.10	0.16	0.3	3.29	1.92	3.13	0.06	0.16
0.11	0.11	0.19	0.4	3.62	2.04	3.44	0.06	0.17
0.12	0.12	0.23	0.5	3.95	2.16	3.75	0.07	0.19
0.13	0.13	0.26	0.6	4.28	2.28	4.07	0.08	0.21
0.14	0.14	0.31	0.7	5.15	2.24	4.93	0.08	0.22
0.15	0.15	0.36	0.8	6.03	2.24	5.79	0.08	0.23
0.16	0.16	0.43	1.0	6.91	2.28	6.65	0.08	0.24
0.17	0.17	0.50	1.2	7.79	2.33	7.51	0.08	0.25
0.18	0.18	0.58	1.4	8.67	2.39	8.38	0.09	0.27
0.19	0.19	0.66	1.6	9.54	2.47	9.24	0.09	0.28
0.20	0.20	0.76	1.9	10.42	2.55	10.10	0.10	0.30
0.21	0.21	0.87	2.3	11.30	2.63	10.96	0.11	0.32
0.22	0.22	0.98	2.7	12.18	2.72	11.83	0.11	0.33
0.23	0.23	1.10	3.1	13.06	2.81	12.69	0.12	0.35
0.24	0.24	1.23	3.6	13.93	2.90	13.55	0.13	0.37
0.25	0.25	1.37	4.1	14.81	2.99	14.41	0.14	0.39
0.26	0.26	1.52	4.7	15.69	3.08	15.27	0.15	0.41
0.27	0.27	1.68	5.3	16.57	3.17	16.14	0.16	0.43
0.28	0.28	1.84	6.0	17.45	3.26	17.00	0.17	0.45
0.29	0.29	2.02	6.8	18.32	3.36	17.86	0.17	0.46
0.30	0.30	2.20	7.6	19.20	3.45	18.72	0.18	0.48
0.31	0.31	2.39	8.5	20.08	3.54	19.59	0.19	0.50
0.32	0.32	2.59	9.4	20.96	3.63	20.45	0.20	0.52
0.33	0.33	2.80	10.4	21.84	3.71	21.31	0.21	0.54
0.34	0.34	3.02	11.5	22.71	3.80	22.17	0.22	0.56
0.35	0.35	3.25	12.6	23.59	3.89	23.03	0.24	0.59
0.36	0.36	3.48	13.8	24.47	3.98	23.90	0.25	0.61
0.37	0.37	3.72	15.1	25.35	4.06	24.76	0.26	0.63
0.38	0.38	3.98	16.5	26.23	4.15	25.62	0.27	0.65
0.39	0.39	4.24	17.9	27.10	4.24	26.48	0.28	0.67
0.40	0.40	4.50	19.5	27.98	4.32	27.35	0.29	0.69
0.41	0.41	4.78	21.1	28.86	4.40	28.21	0.30	0.71
0.42	0.42	5.06	23.2	28.88	4.57	28.21	0.32	0.74
0.43	0.43	5.35	25.3	28.90	4.74	28.22	0.35	0.78

ROLL CURB LIMIT @ LOT 91

ACTUAL Q = 20.78

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	29.9	28.94	5.06	28.23	0.40	0.85	
0.46	0.46	6.19	32.3	28.96	5.22	28.23	0.42	0.88	STREET CAPACITY
0.47	0.47	6.48	34.8	28.98	5.38	28.24	0.45	0.92	
0.48	0.48	6.76	37.4	29.01	5.53	28.24	0.47	0.95	
0.49	0.49	7.04	40.0	29.03	5.68	28.25	0.50	0.99	
0.50	0.50	7.32	42.7	29.05	5.83	28.25	0.53	1.03	
0.51	0.51	7.61	45.4	29.07	5.97	28.26	0.55	1.06	
0.52	0.52	7.89	48.3	29.09	6.12	28.26	0.58	1.10	
0.53	0.53	8.17	51.1	29.11	6.26	28.27	0.61	1.14	
0.54	0.54	8.45	54.1	29.13	6.40	28.27	0.64	1.18	
0.55	0.55	8.74	57.1	29.15	6.54	28.28	0.66	1.21	
0.56	0.56	9.02	60.2	29.17	6.68	28.28	0.69	1.25	
0.57	0.57	9.30	63.4	29.19	6.81	28.29	0.72	1.29	
0.58	0.58	9.59	66.6	29.21	6.95	28.29	0.75	1.33	
0.59	0.59	9.87	69.9	29.23	7.08	28.30	0.78	1.37	
0.60	0.60	10.15	73.2	29.25	7.21	28.30	0.81	1.41	
0.61	0.61	10.43	76.6	29.27	7.34	28.31	0.84	1.45	
0.62	0.62	10.72	80.0	29.29	7.47	28.31	0.87	1.49	
0.63	0.63	11.00	83.6	29.31	7.60	28.32	0.90	1.53	
0.64	0.64	11.28	87.1	29.34	7.72	28.32	0.93	1.57	
0.65	0.65	11.57	90.8	29.36	7.85	28.33	0.96	1.61	
0.66	0.66	11.85	94.5	29.38	7.97	28.33	0.99	1.65	
0.67	0.67	12.13	98.2	29.40	8.09	28.34	1.02	1.69	
0.68	0.68	12.42	99.8	30.44	8.03	30.30	1.00	1.68	
0.69	0.69	12.72	101.5	31.49	7.98	31.34	0.99	1.68	
0.70	0.70	13.06	101.8	33.45	7.80	32.39	0.94	1.64	
0.71	0.71	13.39	104.0	34.50	7.77	33.44	0.94	1.65	
0.72	0.72	13.73	106.3	35.54	7.74	34.48	0.93	1.65	
0.73	0.73	14.08	108.7	36.59	7.72	35.53	0.93	1.66	
0.74	0.74	14.44	111.3	37.64	7.71	36.58	0.92	1.66	
0.75	0.75	14.81	114.0	38.68	7.70	37.62	0.92	1.67	
0.76	0.76	15.19	116.8	39.73	7.69	38.67	0.92	1.68	
0.77	0.77	15.58	119.8	40.78	7.69	39.72	0.92	1.69	
0.78	0.78	15.98	122.9	41.83	7.69	40.77	0.92	1.70	
0.79	0.79	16.40	126.2	42.87	7.69	41.81	0.92	1.71	
0.80	0.80	16.82	129.5	43.92	7.70	42.86	0.92	1.72	
0.81	0.81	17.25	133.0	44.97	7.71	43.91	0.92	1.73	
0.82	0.82	17.70	136.7	46.01	7.72	44.95	0.93	1.75	
0.83	0.83	18.15	140.5	47.06	7.74	46.00	0.93	1.76	

$\frac{20.78}{31} = 0.67 \frac{cfs}{lots}$

$\frac{9.4}{0.67} = 14 \text{ lots}$

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MORNING SUN TRAIL

MANNING'S N= .017 SLOPE= .0125

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH INC	FLOW AREA	FLOW RATE	WETTED PER	FLOW VEL	TOPWID	VEL HEAD	ENERGY HEAD
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.01	0.01	0.00	0.0	0.33	0.28	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.44	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.57	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	0.70	1.25	0.01	0.05
0.05	0.05	0.04	0.0	1.64	0.81	1.56	0.01	0.06
0.06	0.06	0.06	0.1	1.97	0.91	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	1.01	2.19	0.02	0.09
0.08	0.08	0.10	0.1	2.63	1.11	2.50	0.02	0.10
0.09	0.09	0.13	0.2	2.96	1.20	2.81	0.02	0.11
0.10	0.10	0.16	0.2	3.29	1.28	3.13	0.03	0.13
0.11	0.11	0.19	0.3	3.62	1.37	3.44	0.03	0.14
0.12	0.12	0.23	0.3	3.95	1.45	3.75	0.03	0.15
0.13	0.13	0.26	0.4	4.28	1.53	4.07	0.04	0.17
0.14	0.14	0.31	0.5	5.15	1.50	4.93	0.03	0.17
0.15	0.15	0.36	0.5	6.03	1.50	5.79	0.03	0.18
0.16	0.16	0.43	0.6	6.91	1.52	6.65	0.04	0.20
0.17	0.17	0.50	0.8	7.79	1.56	7.51	0.04	0.21
0.18	0.18	0.58	0.9	8.67	1.60	8.38	0.04	0.22
0.19	0.19	0.66	1.1	9.54	1.65	9.24	0.04	0.23
0.20	0.20	0.76	1.3	10.42	1.71	10.10	0.05	0.25
0.21	0.21	0.87	1.5	11.30	1.76	10.96	0.05	0.26
0.22	0.22	0.98	1.8	12.18	1.82	11.83	0.05	0.27
0.23	0.23	1.10	2.1	13.06	1.88	12.69	0.05	0.28
0.24	0.24	1.23	2.4	13.93	1.94	13.55	0.06	0.30
0.25	0.25	1.37	2.7	14.81	2.00	14.41	0.06	0.31
0.26	0.26	1.52	3.1	15.69	2.06	15.27	0.07	0.33
0.27	0.27	1.68	3.6	16.57	2.12	16.14	0.07	0.34
0.28	0.28	1.84	4.0	17.45	2.18	17.00	0.07	0.35
0.29	0.29	2.02	4.5	18.32	2.25	17.86	0.08	0.37
0.30	0.30	2.20	5.1	19.20	2.31	18.72	0.08	0.38
0.31	0.31	2.39	5.7	20.08	2.37	19.59	0.09	0.40
0.32	0.32	2.59	6.3	20.96	2.43	20.45	0.09	0.41
0.33	0.33	2.80	7.0	21.84	2.49	21.31	0.10	0.43
0.34	0.34	3.02	7.7	22.71	2.55	22.17	0.10	0.44
0.35	0.35	3.25	8.5	23.59	2.60	23.03	0.11	0.46
0.36	0.36	3.48	9.3	24.47	2.66	23.90	0.11	0.47
0.37	0.37	3.72	10.1	25.35	2.72	24.76	0.11	0.48
0.38	0.38	3.98	11.0	26.23	2.78	25.62	0.12	0.50
0.39	0.39	4.24	12.0	27.10	2.84	26.48	0.12	0.51
0.40	0.40	4.50	13.0	27.98	2.89	27.35	0.13	0.53
0.41	0.41	4.78	14.1	28.86	2.95	28.21	0.13	0.54
0.42	0.42	5.06	15.5	28.88	3.06	28.21	0.15	0.57
0.43	0.43	5.35	17.0	28.90	3.17	28.22	0.16	0.59

ROLL CURB LIMIT @ LOT 17

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	20.0	28.94	3.39	28.23	0.18	0.63	
0.46	0.46	6.19	21.6	28.96	3.49	28.23	0.19	0.65	
0.47	0.47	6.48	23.3	28.98	3.60	28.24	0.20	0.67	
0.48	0.48	6.76	25.0	29.01	3.70	28.24	0.21	0.69	
0.49	0.49	7.04	26.8	29.03	3.80	28.25	0.22	0.71	ACTUAL Q = 27.5
0.50	0.50	7.32	28.6	29.05	3.90	28.25	0.24	0.74	
0.51	0.51	7.61	30.4	29.07	4.00	28.26	0.25	0.76	
0.52	0.52	7.89	32.3	29.09	4.09	28.26	0.26	0.78	
0.53	0.53	8.17	34.2	29.11	4.19	28.27	0.27	0.80	
0.54	0.54	8.45	36.2	29.13	4.28	28.27	0.28	0.82	
0.55	0.55	8.74	38.2	29.15	4.38	28.28	0.30	0.85	
0.56	0.56	9.02	40.3	29.17	4.47	28.28	0.31	0.87	STREET CAPACITY
0.57	0.57	9.30	42.4	29.19	4.56	28.29	0.32	0.89	
0.58	0.58	9.59	44.6	29.21	4.65	28.29	0.34	0.92	
0.59	0.59	9.87	46.8	29.23	4.74	28.30	0.35	0.94	
0.60	0.60	10.15	49.0	29.25	4.83	28.30	0.36	0.96	
0.61	0.61	10.43	51.3	29.27	4.91	28.31	0.37	0.98	
0.62	0.62	10.72	53.6	29.29	5.00	28.31	0.39	1.01	
0.63	0.63	11.00	55.9	29.31	5.08	28.32	0.40	1.03	
0.64	0.64	11.28	58.3	29.34	5.17	28.32	0.41	1.05	
0.65	0.65	11.57	60.8	29.36	5.25	28.33	0.43	1.08	
0.66	0.66	11.85	63.2	29.38	5.34	28.33	0.44	1.10	
0.67	0.67	12.13	65.7	29.40	5.42	28.34	0.46	1.13	
0.68	0.68	12.42	66.8	30.44	5.38	30.30	0.45	1.13	
0.69	0.69	12.72	67.9	31.49	5.34	31.34	0.44	1.13	
0.70	0.70	13.06	68.2	33.45	5.22	32.39	0.42	1.12	
0.71	0.71	13.39	69.6	34.50	5.20	33.44	0.42	1.13	
0.72	0.72	13.73	71.1	35.54	5.18	34.48	0.42	1.14	
0.73	0.73	14.08	72.8	36.59	5.17	35.53	0.41	1.14	
0.74	0.74	14.44	74.5	37.64	5.16	36.58	0.41	1.15	
0.75	0.75	14.81	76.3	38.68	5.15	37.62	0.41	1.16	
0.76	0.76	15.19	78.2	39.73	5.15	38.67	0.41	1.17	
0.77	0.77	15.58	80.2	40.78	5.15	39.72	0.41	1.18	
0.78	0.78	15.98	82.3	41.83	5.15	40.77	0.41	1.19	
0.79	0.79	16.40	84.4	42.87	5.15	41.81	0.41	1.20	
0.80	0.80	16.82	86.7	43.92	5.15	42.86	0.41	1.21	
0.81	0.81	17.25	89.0	44.97	5.16	43.91	0.41	1.22	
0.82	0.82	17.70	91.5	46.01	5.17	44.95	0.41	1.23	
0.83	0.83	18.15	94.0	47.06	5.18	46.00	0.42	1.25	

$\frac{27.5}{22} = 1.25 \frac{cfs}{kt}$

$\frac{13}{1.25} = 10.4$ kts

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

WAGON GATE TRAIL

MANNING'S N= .017 SLOPE= .031

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH INC	FLOW AREA	FLOW RATE	WETTED PER	FLOW VEL	TOPWID	VEL HEAD	ENERGY HEAD
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.01	0.01	0.00	0.0	0.33	0.44	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.69	0.63	0.01	0.03
0.03	0.03	0.01	0.0	0.99	0.91	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	1.10	1.25	0.02	0.06
0.05	0.05	0.04	0.0	1.64	1.27	1.56	0.03	0.08
0.06	0.06	0.06	0.1	1.97	1.44	1.88	0.03	0.09
0.07	0.07	0.08	0.1	2.30	1.59	2.19	0.04	0.11
0.08	0.08	0.10	0.2	2.63	1.74	2.50	0.05	0.13
0.09	0.09	0.13	0.2	2.96	1.88	2.81	0.06	0.15
0.10	0.10	0.16	0.3	3.29	2.02	3.13	0.06	0.16
0.11	0.11	0.19	0.4	3.62	2.15	3.44	0.07	0.18
0.12	0.12	0.23	0.5	3.95	2.28	3.75	0.08	0.20
0.13	0.13	0.26	0.6	4.28	2.41	4.07	0.09	0.22
0.14	0.14	0.31	0.7	5.15	2.36	4.93	0.09	0.23
0.15	0.15	0.36	0.9	6.03	2.36	5.79	0.09	0.24
0.16	0.16	0.43	1.0	6.91	2.40	6.65	0.09	0.25
0.17	0.17	0.50	1.2	7.79	2.45	7.51	0.09	0.26
0.18	0.18	0.58	1.5	8.67	2.52	8.38	0.10	0.28
0.19	0.19	0.66	1.7	9.54	2.60	9.24	0.11	0.30
0.20	0.20	0.76	2.0	10.42	2.69	10.10	0.11	0.31
0.21	0.21	0.87	2.4	11.30	2.78	10.96	0.12	0.33
0.22	0.22	0.98	2.8	12.18	2.87	11.83	0.13	0.35
0.23	0.23	1.10	3.3	13.06	2.96	12.69	0.14	0.37
0.24	0.24	1.23	3.8	13.93	3.06	13.55	0.15	0.39
0.25	0.25	1.37	4.3	14.81	3.15	14.41	0.15	0.40
0.26	0.26	1.52	4.9	15.69	3.25	15.27	0.16	0.42
0.27	0.27	1.68	5.6	16.57	3.34	16.14	0.17	0.44
0.28	0.28	1.84	6.3	17.45	3.44	17.00	0.18	0.46
0.29	0.29	2.02	7.1	18.32	3.54	17.86	0.19	0.48
0.30	0.30	2.20	8.0	19.20	3.63	18.72	0.20	0.50
0.31	0.31	2.39	8.9	20.08	3.73	19.59	0.22	0.53
0.32	0.32	2.59	9.9	20.96	3.82	20.45	0.23	0.55
0.33	0.33	2.80	11.0	21.84	3.92	21.31	0.24	0.57
0.34	0.34	3.02	12.1	22.71	4.01	22.17	0.25	0.59
0.35	0.35	3.25	13.3	23.59	4.10	23.03	0.26	0.61
0.36	0.36	3.48	14.6	24.47	4.19	23.90	0.27	0.63
0.37	0.37	3.72	16.0	25.35	4.28	24.76	0.29	0.66
0.38	0.38	3.98	17.4	26.23	4.38	25.62	0.30	0.68
0.39	0.39	4.24	18.9	27.10	4.47	26.48	0.31	0.70
0.40	0.40	4.50	20.5	27.98	4.55	27.35	0.32	0.72
0.41	0.41	4.78	22.2	28.86	4.64	28.21	0.33	0.74
0.42	0.42	5.06	24.4	28.88	4.82	28.21	0.36	0.78
0.43	0.43	5.35	26.7	28.90	5.00	28.22	0.39	0.82

STD CURB THROUGH OUT

ACTUAL G = 24.24

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	31.6	28.94	5.34	28.23	0.44	0.89	STREET CAPACITY
0.46	0.46	6.19	34.1	28.96	5.50	28.23	0.47	0.93	
0.47	0.47	6.48	36.7	28.98	5.67	28.24	0.50	0.97	
0.48	0.48	6.76	39.4	29.01	5.83	28.24	0.53	1.01	
0.49	0.49	7.04	42.1	29.03	5.99	28.25	0.56	1.05	
0.50	0.50	7.32	45.0	29.05	6.14	28.25	0.59	1.09	
0.51	0.51	7.61	47.9	29.07	6.30	28.26	0.62	1.13	
0.52	0.52	7.89	50.9	29.09	6.45	28.26	0.65	1.17	
0.53	0.53	8.17	53.9	29.11	6.60	28.27	0.68	1.21	
0.54	0.54	8.45	57.0	29.13	6.75	28.27	0.71	1.25	
0.55	0.55	8.74	60.2	29.15	6.89	28.28	0.74	1.29	
0.56	0.56	9.02	63.5	29.17	7.04	28.28	0.77	1.33	
0.57	0.57	9.30	66.8	29.19	7.18	28.29	0.80	1.37	
0.58	0.58	9.59	70.2	29.21	7.32	28.29	0.83	1.41	
0.59	0.59	9.87	73.6	29.23	7.46	28.30	0.86	1.45	
0.60	0.60	10.15	77.2	29.25	7.60	28.30	0.90	1.50	
0.61	0.61	10.43	80.7	29.27	7.74	28.31	0.93	1.54	
0.62	0.62	10.72	84.4	29.29	7.87	28.31	0.96	1.58	
0.63	0.63	11.00	88.1	29.31	8.01	28.32	1.00	1.63	
0.64	0.64	11.28	91.9	29.34	8.14	28.32	1.03	1.67	
0.65	0.65	11.57	95.7	29.36	8.27	28.33	1.06	1.71	
0.66	0.66	11.85	99.6	29.38	8.40	28.33	1.10	1.76	
0.67	0.67	12.13	103.5	29.40	8.53	28.34	1.13	1.80	
0.68	0.68	12.42	105.2	30.44	8.47	30.30	1.11	1.79	
0.69	0.69	12.72	107.0	31.49	8.41	31.34	1.10	1.79	
0.70	0.70	13.06	107.4	33.45	8.22	32.39	1.05	1.75	
0.71	0.71	13.39	109.6	34.50	8.19	33.44	1.04	1.75	
0.72	0.72	13.73	112.0	35.54	8.16	34.48	1.03	1.75	
0.73	0.73	14.08	114.6	36.59	8.14	35.53	1.03	1.76	
0.74	0.74	14.44	117.3	37.64	8.13	36.58	1.03	1.77	
0.75	0.75	14.81	120.2	38.68	8.11	37.62	1.02	1.77	
0.76	0.76	15.19	123.2	39.73	8.11	38.67	1.02	1.78	
0.77	0.77	15.58	126.3	40.78	8.10	39.72	1.02	1.79	
0.78	0.78	15.98	129.6	41.83	8.11	40.77	1.02	1.80	
0.79	0.79	16.40	133.0	42.87	8.11	41.81	1.02	1.81	
0.80	0.80	16.82	136.5	43.92	8.12	42.86	1.02	1.82	
0.81	0.81	17.25	140.2	44.97	8.13	43.91	1.03	1.84	
0.82	0.82	17.70	144.1	46.01	8.14	44.95	1.03	1.85	
0.83	0.83	18.15	148.1	47.06	8.16	46.00	1.03	1.86	

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

WAGON GATE TRAIL

MANNING'S N= .017 SLOPE= .019

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH INC	FLOW AREA	FLOW RATE	WETTED PER	FLOW VEL	TOPWID	VEL HEAD	ENERGY HEAD
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.01	0.01	0.00	0.0	0.33	0.34	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.54	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.71	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	0.86	1.25	0.01	0.05
0.05	0.05	0.04	0.0	1.64	1.00	1.56	0.02	0.07
0.06	0.06	0.06	0.1	1.97	1.12	1.88	0.02	0.08
0.07	0.07	0.08	0.1	2.30	1.25	2.19	0.02	0.09
0.08	0.08	0.10	0.1	2.63	1.36	2.50	0.03	0.11
0.09	0.09	0.13	0.2	2.96	1.47	2.81	0.03	0.12
0.10	0.10	0.16	0.2	3.29	1.58	3.13	0.04	0.14
0.11	0.11	0.19	0.3	3.62	1.68	3.44	0.04	0.15
0.12	0.12	0.23	0.4	3.95	1.79	3.75	0.05	0.17
0.13	0.13	0.26	0.5	4.28	1.88	4.07	0.06	0.19
0.14	0.14	0.31	0.6	5.15	1.85	4.93	0.05	0.19
0.15	0.15	0.36	0.7	6.03	1.85	5.79	0.05	0.20
0.16	0.16	0.43	0.8	6.91	1.88	6.65	0.05	0.21
0.17	0.17	0.50	1.0	7.79	1.92	7.51	0.06	0.23
0.18	0.18	0.58	1.1	8.67	1.98	8.38	0.06	0.24
0.19	0.19	0.66	1.4	9.54	2.04	9.24	0.06	0.25
0.20	0.20	0.76	1.6	10.42	2.10	10.10	0.07	0.27
0.21	0.21	0.87	1.9	11.30	2.17	10.96	0.07	0.28
0.22	0.22	0.98	2.2	12.18	2.24	11.83	0.08	0.30
0.23	0.23	1.10	2.6	13.06	2.32	12.69	0.08	0.31
0.24	0.24	1.23	3.0	13.93	2.39	13.55	0.09	0.33
0.25	0.25	1.37	3.4	14.81	2.47	14.41	0.09	0.34
0.26	0.26	1.52	3.9	15.69	2.54	15.27	0.10	0.36
0.27	0.27	1.68	4.4	16.57	2.62	16.14	0.11	0.38
0.28	0.28	1.84	5.0	17.45	2.69	17.00	0.11	0.39
0.29	0.29	2.02	5.6	18.32	2.77	17.86	0.12	0.41
0.30	0.30	2.20	6.3	19.20	2.84	18.72	0.13	0.43
0.31	0.31	2.39	7.0	20.08	2.92	19.59	0.13	0.44
0.32	0.32	2.59	7.8	20.96	2.99	20.45	0.14	0.46
0.33	0.33	2.80	8.6	21.84	3.07	21.31	0.15	0.48
0.34	0.34	3.02	9.5	22.71	3.14	22.17	0.15	0.49
0.35	0.35	3.25	10.4	23.59	3.21	23.03	0.16	0.51
0.36	0.36	3.48	11.4	24.47	3.28	23.90	0.17	0.53
0.37	0.37	3.72	12.5	25.35	3.35	24.76	0.17	0.54
0.38	0.38	3.98	13.6	26.23	3.43	25.62	0.18	0.56
0.39	0.39	4.24	14.8	27.10	3.50	26.48	0.19	0.58
0.40	0.40	4.50	16.1	27.98	3.57	27.35	0.20	0.60
0.41	0.41	4.78	17.4	28.86	3.64	28.21	0.21	0.62
0.42	0.42	5.06	19.1	28.88	3.77	28.21	0.22	0.64
0.43	0.43	5.35	20.9	28.90	3.91	28.22	0.24	0.67

STD CURB THROUGH CUT

ACTUAL Q = 24.24

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	24.7	28.94	4.18	28.23	0.27	0.72	
0.46	0.46	6.19	26.7	28.96	4.31	28.23	0.29	0.75	
0.47	0.47	6.48	28.7	28.98	4.44	28.24	0.31	0.78	
0.48	0.48	6.76	30.8	29.01	4.56	28.24	0.32	0.80	
0.49	0.49	7.04	33.0	29.03	4.69	28.25	0.34	0.83	
0.50	0.50	7.32	35.2	29.05	4.81	28.25	0.36	0.86	STREET
0.51	0.51	7.61	37.5	29.07	4.93	28.26	0.38	0.89	
0.52	0.52	7.89	39.8	29.09	5.05	28.26	0.40	0.92	CAPACITY
0.53	0.53	8.17	42.2	29.11	5.17	28.27	0.41	0.94	
0.54	0.54	8.45	44.7	29.13	5.28	28.27	0.43	0.97	
0.55	0.55	8.74	47.1	29.15	5.40	28.28	0.45	1.00	
0.56	0.56	9.02	49.7	29.17	5.51	28.28	0.47	1.03	
0.57	0.57	9.30	52.3	29.19	5.62	28.29	0.49	1.06	
0.58	0.58	9.59	54.9	29.21	5.73	28.29	0.51	1.09	
0.59	0.59	9.87	57.6	29.23	5.84	28.30	0.53	1.12	
0.60	0.60	10.15	60.4	29.25	5.95	28.30	0.55	1.15	
0.61	0.61	10.43	63.2	29.27	6.06	28.31	0.57	1.18	
0.62	0.62	10.72	66.1	29.29	6.16	28.31	0.59	1.21	
0.63	0.63	11.00	69.0	29.31	6.27	28.32	0.61	1.24	
0.64	0.64	11.28	71.9	29.34	6.37	28.32	0.63	1.27	
0.65	0.65	11.57	74.9	29.36	6.48	28.33	0.65	1.30	
0.66	0.66	11.85	78.0	29.38	6.58	28.33	0.67	1.33	
0.67	0.67	12.13	81.0	29.40	6.68	28.34	0.69	1.36	
0.68	0.68	12.42	82.3	30.44	6.63	30.30	0.68	1.36	
0.69	0.69	12.72	83.8	31.49	6.58	31.34	0.67	1.36	
0.70	0.70	13.06	84.0	33.45	6.44	32.39	0.64	1.34	
0.71	0.71	13.39	85.8	34.50	6.41	33.44	0.64	1.35	
0.72	0.72	13.73	87.7	35.54	6.39	34.48	0.63	1.35	
0.73	0.73	14.08	89.7	36.59	6.37	35.53	0.63	1.36	
0.74	0.74	14.44	91.8	37.64	6.36	36.58	0.63	1.37	
0.75	0.75	14.81	94.1	38.68	6.35	37.62	0.63	1.38	
0.76	0.76	15.19	96.4	39.73	6.35	38.67	0.63	1.39	
0.77	0.77	15.58	98.9	40.78	6.34	39.72	0.63	1.40	
0.78	0.78	15.98	101.4	41.83	6.35	40.77	0.63	1.41	
0.79	0.79	16.40	104.1	42.87	6.35	41.81	0.63	1.42	
0.80	0.80	16.82	106.9	43.92	6.35	42.86	0.63	1.43	
0.81	0.81	17.25	109.8	44.97	6.36	43.91	0.63	1.44	
0.82	0.82	17.70	112.8	46.01	6.37	44.95	0.63	1.45	
0.83	0.83	18.15	115.9	47.06	6.38	46.00	0.63	1.46	

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

WAGON GATE TRAIL

MANNING'S N= .017 SLOPE= .044

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH INC	FLOW AREA	FLOW RATE	WETTED PER	FLOW VEL	TOPWID	VEL HEAD	ENERGY HEAD
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.01	0.01	0.00	0.0	0.33	0.52	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.82	0.63	0.01	0.03
0.03	0.03	0.01	0.0	0.99	1.08	0.94	0.02	0.05
0.04	0.04	0.03	0.0	1.32	1.31	1.25	0.03	0.07
0.05	0.05	0.04	0.1	1.64	1.52	1.56	0.04	0.09
0.06	0.06	0.06	0.1	1.97	1.71	1.88	0.05	0.11
0.07	0.07	0.08	0.1	2.30	1.90	2.19	0.06	0.13
0.08	0.08	0.10	0.2	2.63	2.07	2.50	0.07	0.15
0.09	0.09	0.13	0.3	2.96	2.24	2.81	0.08	0.17
0.10	0.10	0.16	0.4	3.29	2.41	3.13	0.09	0.19
0.11	0.11	0.19	0.5	3.62	2.56	3.44	0.10	0.21
0.12	0.12	0.23	0.6	3.95	2.72	3.75	0.11	0.23
0.13	0.13	0.26	0.8	4.28	2.87	4.07	0.13	0.26
0.14	0.14	0.31	0.9	5.15	2.81	4.93	0.12	0.26
0.15	0.15	0.36	1.0	6.03	2.81	5.79	0.12	0.27
0.16	0.16	0.43	1.2	6.91	2.86	6.65	0.13	0.29
0.17	0.17	0.50	1.4	7.79	2.92	7.51	0.13	0.30
0.18	0.18	0.58	1.7	8.67	3.01	8.38	0.14	0.32
0.19	0.19	0.66	2.1	9.54	3.10	9.24	0.15	0.34
0.20	0.20	0.76	2.4	10.42	3.20	10.10	0.16	0.36
0.21	0.21	0.87	2.9	11.30	3.31	10.96	0.17	0.38
0.22	0.22	0.98	3.3	12.18	3.42	11.83	0.18	0.40
0.23	0.23	1.10	3.9	13.06	3.53	12.69	0.19	0.42
0.24	0.24	1.23	4.5	13.93	3.64	13.55	0.21	0.45
0.25	0.25	1.37	5.2	14.81	3.76	14.41	0.22	0.47
0.26	0.26	1.52	5.9	15.69	3.87	15.27	0.23	0.49
0.27	0.27	1.68	6.7	16.57	3.98	16.14	0.25	0.52
0.28	0.28	1.84	7.6	17.45	4.10	17.00	0.26	0.54
0.29	0.29	2.02	8.5	18.32	4.21	17.86	0.28	0.57
0.30	0.30	2.20	9.5	19.20	4.33	18.72	0.29	0.59
0.31	0.31	2.39	10.6	20.08	4.44	19.59	0.31	0.62
0.32	0.32	2.59	11.8	20.96	4.55	20.45	0.32	0.64
0.33	0.33	2.80	13.1	21.84	4.66	21.31	0.34	0.67
0.34	0.34	3.02	14.4	22.71	4.78	22.17	0.35	0.69
0.35	0.35	3.25	15.9	23.59	4.89	23.03	0.37	0.72
0.36	0.36	3.48	17.4	24.47	5.00	23.90	0.39	0.75
0.37	0.37	3.72	19.0	25.35	5.10	24.76	0.40	0.77
0.38	0.38	3.98	20.7	26.23	5.21	25.62	0.42	0.80
0.39	0.39	4.24	22.5	27.10	5.32	26.48	0.44	0.83
0.40	0.40	4.50	24.4	27.98	5.43	27.35	0.46	0.86
0.41	0.41	4.78	26.5	28.86	5.53	28.21	0.48	0.89
0.42	0.42	5.06	29.1	28.88	5.74	28.21	0.51	0.93
0.43	0.43	5.35	31.8	28.90	5.95	28.22	0.55	0.98

STD CURB THROUGHOUT

ACTUAL Q = 24.24 STREET CAPACITY

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MORNING SUN TRAIL

MANNING'S N= .017 SLOPE= .0305

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH INC	FLOW AREA	FLOW RATE	WETTED PER	FLOW VEL	TOPWID	VEL HEAD	ENERGY HEAD
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.01	0.01	0.00	0.0	0.33	0.43	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.69	0.63	0.01	0.03
0.03	0.03	0.01	0.0	0.99	0.90	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	1.09	1.25	0.02	0.06
0.05	0.05	0.04	0.0	1.64	1.26	1.56	0.02	0.07
0.06	0.06	0.06	0.1	1.97	1.43	1.88	0.03	0.09
0.07	0.07	0.08	0.1	2.30	1.58	2.19	0.04	0.11
0.08	0.08	0.10	0.2	2.63	1.73	2.50	0.05	0.13
0.09	0.09	0.13	0.2	2.96	1.87	2.81	0.05	0.14
0.10	0.10	0.16	0.3	3.29	2.00	3.13	0.06	0.16
0.11	0.11	0.19	0.4	3.62	2.13	3.44	0.07	0.18
0.12	0.12	0.23	0.5	3.95	2.26	3.75	0.08	0.20
0.13	0.13	0.26	0.6	4.28	2.39	4.07	0.09	0.22
0.14	0.14	0.31	0.7	5.15	2.34	4.93	0.08	0.22
0.15	0.15	0.36	0.9	6.03	2.34	5.79	0.09	0.24
0.16	0.16	0.43	1.0	6.91	2.38	6.65	0.09	0.25
0.17	0.17	0.50	1.2	7.79	2.43	7.51	0.09	0.26
0.18	0.18	0.58	1.4	8.67	2.50	8.38	0.10	0.28
0.19	0.19	0.66	1.7	9.54	2.58	9.24	0.10	0.29
0.20	0.20	0.76	2.0	10.42	2.66	10.10	0.11	0.31
0.21	0.21	0.87	2.4	11.30	2.75	10.96	0.12	0.33
0.22	0.22	0.98	2.8	12.18	2.84	11.83	0.13	0.35
0.23	0.23	1.10	3.2	13.06	2.94	12.69	0.13	0.36
0.24	0.24	1.23	3.7	13.93	3.03	13.55	0.14	0.38
0.25	0.25	1.37	4.3	14.81	3.13	14.41	0.15	0.40
0.26	0.26	1.52	4.9	15.69	3.22	15.27	0.16	0.42
0.27	0.27	1.68	5.6	16.57	3.32	16.14	0.17	0.44
0.28	0.28	1.84	6.3	17.45	3.41	17.00	0.18	0.46
0.29	0.29	2.02	7.1	18.32	3.51	17.86	0.19	0.48
0.30	0.30	2.20	7.9	19.20	3.60	18.72	0.20	0.50
0.31	0.31	2.39	8.8	20.08	3.70	19.59	0.21	0.52
0.32	0.32	2.59	9.8	20.96	3.79	20.45	0.22	0.54
0.33	0.33	2.80	10.9	21.84	3.88	21.31	0.23	0.56
0.34	0.34	3.02	12.0	22.71	3.98	22.17	0.25	0.59
0.35	0.35	3.25	13.2	23.59	4.07	23.03	0.26	0.61
0.36	0.36	3.48	14.5	24.47	4.16	23.90	0.27	0.63
0.37	0.37	3.72	15.8	25.35	4.25	24.76	0.28	0.65
0.38	0.38	3.98	17.3	26.23	4.34	25.62	0.29	0.67
0.39	0.39	4.24	18.8	27.10	4.43	26.48	0.30	0.69
0.40	0.40	4.50	20.4	27.98	4.52	27.35	0.32	0.72
0.41	0.41	4.78	22.0	28.86	4.61	28.21	0.33	0.74
0.42	0.42	5.06	24.2	28.88	4.78	28.21	0.36	0.78
0.43	0.43	5.35	26.5	28.90	4.96	28.22	0.38	0.81

ROLL CURB LIMIT @ LOT 17

ACTUAL G=27.51

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.45	0.45	5.91	31.3	28.94	5.29	28.23	0.44	0.89
0.46	0.46	6.19	33.8	28.96	5.46	28.23	0.46	0.92
0.47	0.47	6.48	36.4	28.98	5.62	28.24	0.49	0.96
0.48	0.48	6.76	39.1	29.01	5.78	28.24	0.52	1.00
0.49	0.49	7.04	41.8	29.03	5.94	28.25	0.55	1.04
0.50	0.50	7.32	44.6	29.05	6.09	28.25	0.58	1.08
0.51	0.51	7.61	47.5	29.07	6.25	28.26	0.61	1.12
0.52	0.52	7.89	50.5	29.09	6.40	28.26	0.64	1.16
0.53	0.53	8.17	53.5	29.11	6.54	28.27	0.67	1.20
0.54	0.54	8.45	56.6	29.13	6.69	28.27	0.70	1.24
0.55	0.55	8.74	59.7	29.15	6.84	28.28	0.73	1.28
0.56	0.56	9.02	63.0	29.17	6.98	28.28	0.76	1.32
0.57	0.57	9.30	66.3	29.19	7.12	28.29	0.79	1.36
0.58	0.58	9.59	69.6	29.21	7.26	28.29	0.82	1.40
0.59	0.59	9.87	73.0	29.23	7.40	28.30	0.85	1.44
0.60	0.60	10.15	76.5	29.25	7.54	28.30	0.88	1.48
0.61	0.61	10.43	80.1	29.27	7.67	28.31	0.91	1.52
0.62	0.62	10.72	83.7	29.29	7.81	28.31	0.95	1.57
0.63	0.63	11.00	87.4	29.31	7.94	28.32	0.98	1.61
0.64	0.64	11.28	91.1	29.34	8.07	28.32	1.01	1.65
0.65	0.65	11.57	94.9	29.36	8.20	28.33	1.05	1.70
0.66	0.66	11.85	98.8	29.38	8.33	28.33	1.08	1.74
0.67	0.67	12.13	102.7	29.40	8.46	28.34	1.11	1.78
0.68	0.68	12.42	104.3	30.44	8.40	30.30	1.10	1.78
0.69	0.69	12.72	106.1	31.49	8.34	31.34	1.08	1.77
0.70	0.70	13.06	106.5	33.45	8.15	32.39	1.03	1.73
0.71	0.71	13.39	108.7	34.50	8.12	33.44	1.02	1.73
0.72	0.72	13.73	111.1	35.54	8.10	34.48	1.02	1.74
0.73	0.73	14.08	113.7	36.59	8.08	35.53	1.01	1.74
0.74	0.74	14.44	116.4	37.64	8.06	36.58	1.01	1.75
0.75	0.75	14.81	119.2	38.68	8.05	37.62	1.01	1.76
0.76	0.76	15.19	122.2	39.73	8.04	38.67	1.00	1.76
0.77	0.77	15.58	125.3	40.78	8.04	39.72	1.00	1.77
0.78	0.78	15.98	128.5	41.83	8.04	40.77	1.00	1.78
0.79	0.79	16.40	131.9	42.87	8.04	41.81	1.00	1.79
0.80	0.80	16.82	135.4	43.92	8.05	42.86	1.01	1.81
0.81	0.81	17.25	139.1	44.97	8.06	43.91	1.01	1.82
0.82	0.82	17.70	142.9	46.01	8.07	44.95	1.01	1.83
0.83	0.83	18.15	146.9	47.06	8.09	46.00	1.02	1.85

STREET CAPACITY

$\frac{16.17}{22} = 0.74 \frac{cfs}{lot}$

$0.74 \frac{cfs}{lot} \times 11 \text{ lots} = 8.14$

$11.34 + 8.14 = 19.48$

$\frac{19.48}{22} = 0.88$

$\frac{8.8}{0.88} = 10 \text{ lots}$

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

CANYON GATE TRAIL

MANNING'S N= .017 SLOPE= .039

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH INC	FLOW AREA	FLOW RATE	WETTED PER	FLOW VEL	TOPWID	VEL HEAD	ENERGY HEAD	
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)	
0.01	0.01	0.00	0.0	0.33	0.49	0.31	0.00	0.01	
0.02	0.02	0.01	0.0	0.66	0.77	0.63	0.01	0.03	
0.03	0.03	0.01	0.0	0.99	1.02	0.94	0.02	0.05	
0.04	0.04	0.03	0.0	1.32	1.23	1.25	0.02	0.06	
0.05	0.05	0.04	0.1	1.64	1.43	1.56	0.03	0.08	
0.06	0.06	0.06	0.1	1.97	1.61	1.88	0.04	0.10	
0.07	0.07	0.08	0.1	2.30	1.79	2.19	0.05	0.12	
0.08	0.08	0.10	0.2	2.63	1.95	2.50	0.06	0.14	
0.09	0.09	0.13	0.3	2.96	2.11	2.81	0.07	0.16	
0.10	0.10	0.16	0.4	3.29	2.27	3.13	0.08	0.18	
0.11	0.11	0.19	0.5	3.62	2.41	3.44	0.09	0.20	
0.12	0.12	0.23	0.6	3.95	2.56	3.75	0.10	0.22	
0.13	0.13	0.26	0.7	4.28	2.70	4.07	0.11	0.24	
0.14	0.14	0.31	0.8	5.15	2.65	4.93	0.11	0.25	
0.15	0.15	0.36	1.0	6.03	2.65	5.79	0.11	0.26	
0.16	0.16	0.43	1.1	6.91	2.69	6.65	0.11	0.27	
0.17	0.17	0.50	1.4	7.79	2.75	7.51	0.12	0.29	
0.18	0.18	0.58	1.6	8.67	2.83	8.38	0.12	0.30	
0.19	0.19	0.66	1.9	9.54	2.92	9.24	0.13	0.32	
0.20	0.20	0.76	2.3	10.42	3.01	10.10	0.14	0.34	
0.21	0.21	0.87	2.7	11.30	3.11	10.96	0.15	0.36	
0.22	0.22	0.98	3.2	12.18	3.22	11.83	0.16	0.38	
0.23	0.23	1.10	3.7	13.06	3.32	12.69	0.17	0.40	
0.24	0.24	1.23	4.2	13.93	3.43	13.55	0.18	0.42	
0.25	0.25	1.37	4.9	14.81	3.54	14.41	0.19	0.44	
0.26	0.26	1.52	5.5	15.69	3.64	15.27	0.21	0.47	
0.27	0.27	1.68	6.3	16.57	3.75	16.14	0.22	0.49	
0.28	0.28	1.84	7.1	17.45	3.86	17.00	0.23	0.51	
0.29	0.29	2.02	8.0	18.32	3.97	17.86	0.24	0.53	STD CURB
0.30	0.30	2.20	9.0	19.20	4.07	18.72	0.26	0.56	THROUGH OUT
0.31	0.31	2.39	10.0	20.08	4.18	19.59	0.27	0.58	
0.32	0.32	2.59	11.1	20.96	4.29	20.45	0.29	0.61	
0.33	0.33	2.80	12.3	21.84	4.39	21.31	0.30	0.63	
0.34	0.34	3.02	13.6	22.71	4.50	22.17	0.31	0.65	
0.35	0.35	3.25	14.9	23.59	4.60	23.03	0.33	0.68	
0.36	0.36	3.48	16.4	24.47	4.70	23.90	0.34	0.70	
0.37	0.37	3.72	17.9	25.35	4.81	24.76	0.36	0.73	
0.38	0.38	3.98	19.5	26.23	4.91	25.62	0.37	0.75	
0.39	0.39	4.24	21.2	27.10	5.01	26.48	0.39	0.78	
0.40	0.40	4.50	23.0	27.98	5.11	27.35	0.41	0.81	ACTUAL Q = 26.35
0.41	0.41	4.78	24.9	28.86	5.21	28.21	0.42	0.83	
0.42	0.42	5.06	27.4	28.88	5.41	28.21	0.45	0.87	STREET CAPACITY
0.43	0.43	5.35	30.0	28.90	5.60	28.22	0.49	0.92	

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MOUNTAIN GATE LANE @ 10+24

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH INC	FLOW AREA	FLOW RATE	WETTED PER	FLOW VEL	TOPWID	VEL HEAD	ENERGY HEAD
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.01	0.01	0.00	0.0	0.33	0.19	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.30	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.40	0.94	0.00	0.03
0.04	0.04	0.03	0.0	1.32	0.48	1.25	0.00	0.04
0.05	0.05	0.04	0.0	1.64	0.56	1.56	0.00	0.05
0.06	0.06	0.06	0.0	1.97	0.63	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	0.70	2.19	0.01	0.08
0.08	0.08	0.10	0.1	2.63	0.77	2.50	0.01	0.09
0.09	0.09	0.13	0.1	2.96	0.83	2.81	0.01	0.10
0.10	0.10	0.16	0.1	3.29	0.89	3.13	0.01	0.11
0.11	0.11	0.19	0.2	3.62	0.95	3.44	0.01	0.12
0.12	0.12	0.23	0.2	3.95	1.00	3.75	0.02	0.14
0.13	0.13	0.26	0.3	4.28	1.06	4.07	0.02	0.15
0.14	0.14	0.31	0.3	5.15	1.04	4.93	0.02	0.16
0.15	0.15	0.36	0.4	6.03	1.04	5.79	0.02	0.17
0.16	0.16	0.43	0.4	6.91	1.06	6.65	0.02	0.18
0.17	0.17	0.50	0.5	7.79	1.08	7.51	0.02	0.19
0.18	0.18	0.58	0.6	8.67	1.11	8.38	0.02	0.20
0.19	0.19	0.66	0.8	9.54	1.14	9.24	0.02	0.21
0.20	0.20	0.76	0.9	10.42	1.18	10.10	0.02	0.22
0.21	0.21	0.87	1.1	11.30	1.22	10.96	0.02	0.23
0.22	0.22	0.98	1.2	12.18	1.26	11.83	0.02	0.24
0.23	0.23	1.10	1.4	13.06	1.30	12.69	0.03	0.26
0.24	0.24	1.23	1.7	13.93	1.34	13.55	0.03	0.27
0.25	0.25	1.37	1.9	14.81	1.39	14.41	0.03	0.28
0.26	0.26	1.52	2.2	15.69	1.43	15.27	0.03	0.29
0.27	0.27	1.68	2.5	16.57	1.47	16.14	0.03	0.30
0.28	0.28	1.84	2.8	17.45	1.51	17.00	0.04	0.32
0.29	0.29	2.02	3.1	18.32	1.56	17.86	0.04	0.33
0.30	0.30	2.20	3.5	19.20	1.60	18.72	0.04	0.34
0.31	0.31	2.39	3.9	20.08	1.64	19.59	0.04	0.35
0.32	0.32	2.59	4.4	20.96	1.68	20.45	0.04	0.36
0.33	0.33	2.80	4.8	21.84	1.72	21.31	0.05	0.38
0.34	0.34	3.02	5.3	22.71	1.76	22.17	0.05	0.39
0.35	0.35	3.25	5.9	23.59	1.80	23.03	0.05	0.40
0.36	0.36	3.48	6.4	24.47	1.84	23.90	0.05	0.41
0.37	0.37	3.72	7.0	25.35	1.88	24.76	0.06	0.43
0.38	0.38	3.98	7.7	26.23	1.92	25.62	0.06	0.44
0.39	0.39	4.24	8.3	27.10	1.96	26.48	0.06	0.45
0.40	0.40	4.50	9.0	27.98	2.00	27.35	0.06	0.46
0.41	0.41	4.78	9.8	28.86	2.04	28.21	0.06	0.47
0.42	0.42	5.06	10.7	28.88	2.12	28.21	0.07	0.49
0.43	0.43	5.35	11.8	28.90	2.20	28.22	0.08	0.51

STD CURB THROUGH CUT

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	13.9	28.94	2.35	28.23	0.09	0.54	
0.46	0.46	6.19	15.0	28.96	2.42	28.23	0.09	0.55	
0.47	0.47	6.48	16.1	28.98	2.49	28.24	0.10	0.57	
0.48	0.48	6.76	17.3	29.01	2.56	28.24	0.10	0.58	
0.49	0.49	7.04	18.5	29.03	2.63	28.25	0.11	0.60	
0.50	0.50	7.32	19.8	29.05	2.70	28.25	0.11	0.61	
0.51	0.51	7.61	21.1	29.07	2.77	28.26	0.12	0.63	
0.52	0.52	7.89	22.4	29.09	2.84	28.26	0.12	0.64	
0.53	0.53	8.17	23.7	29.11	2.90	28.27	0.13	0.66	
0.54	0.54	8.45	25.1	29.13	2.97	28.27	0.14	0.68	
0.55	0.55	8.74	26.5	29.15	3.03	28.28	0.14	0.69	
0.56	0.56	9.02	27.9	29.17	3.10	28.28	0.15	0.71	
0.57	0.57	9.30	29.4	29.19	3.16	28.29	0.15	0.72	
0.58	0.58	9.59	30.9	29.21	3.22	28.29	0.16	0.74	ACTUAL Q = 31.41
0.59	0.59	9.87	32.4	29.23	3.28	28.30	0.17	0.76	
0.60	0.60	10.15	33.9	29.25	3.34	28.30	0.17	0.77	
0.61	0.61	10.43	35.5	29.27	3.40	28.31	0.18	0.79	
0.62	0.62	10.72	37.1	29.29	3.46	28.31	0.19	0.81	
0.63	0.63	11.00	38.8	29.31	3.52	28.32	0.19	0.82	
0.64	0.64	11.28	40.4	29.34	3.58	28.32	0.20	0.84	
0.65	0.65	11.57	42.1	29.36	3.64	28.33	0.21	0.86	
0.66	0.66	11.85	43.8	29.38	3.70	28.33	0.21	0.87	STREET CAPACITY
0.67	0.67	12.13	45.5	29.40	3.75	28.34	0.22	0.89	
0.68	0.68	12.42	46.3	30.44	3.72	30.30	0.22	0.90	
0.69	0.69	12.72	47.1	31.49	3.70	31.34	0.21	0.90	
0.70	0.70	13.06	47.2	33.45	3.62	32.39	0.20	0.90	
0.71	0.71	13.39	48.2	34.50	3.60	33.44	0.20	0.91	
0.72	0.72	13.73	49.3	35.54	3.59	34.48	0.20	0.92	
0.73	0.73	14.08	50.4	36.59	3.58	35.53	0.20	0.93	
0.74	0.74	14.44	51.6	37.64	3.57	36.58	0.20	0.94	
0.75	0.75	14.81	52.9	38.68	3.57	37.62	0.20	0.95	
0.76	0.76	15.19	54.2	39.73	3.57	38.67	0.20	0.96	
0.77	0.77	15.58	55.6	40.78	3.57	39.72	0.20	0.97	
0.78	0.78	15.98	57.0	41.83	3.57	40.77	0.20	0.98	
0.79	0.79	16.40	58.5	42.87	3.57	41.81	0.20	0.99	
0.80	0.80	16.82	60.1	43.92	3.57	42.86	0.20	1.00	
0.81	0.81	17.25	61.7	44.97	3.58	43.91	0.20	1.01	
0.82	0.82	17.70	63.4	46.01	3.58	44.95	0.20	1.02	
0.83	0.83	18.15	65.1	47.06	3.59	46.00	0.20	1.03	

$\frac{17.09}{2.2} = 0.78$

$11.34 + 16.17 + (5 \times 0.78) = 31.41$ cfs

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MOUNTAIN GATE LANE @ LOT 31

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

□ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.19	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.30	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.40	0.94	0.00	0.03
0.04	0.04	0.03	0.0	1.32	0.48	1.25	0.00	0.04
0.05	0.05	0.04	0.0	1.64	0.56	1.56	0.00	0.05
0.06	0.06	0.06	0.0	1.97	0.63	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	0.70	2.19	0.01	0.08
0.08	0.08	0.10	0.1	2.63	0.77	2.50	0.01	0.09
0.09	0.09	0.13	0.1	2.96	0.83	2.81	0.01	0.10
0.10	0.10	0.16	0.1	3.29	0.89	3.13	0.01	0.11
0.11	0.11	0.19	0.2	3.62	0.95	3.44	0.01	0.12
0.12	0.12	0.23	0.2	3.95	1.00	3.75	0.02	0.14
0.13	0.13	0.26	0.3	4.28	1.06	4.07	0.02	0.15
0.14	0.14	0.31	0.3	5.15	1.04	4.93	0.02	0.16
0.15	0.15	0.36	0.4	6.03	1.04	5.79	0.02	0.17
0.16	0.16	0.43	0.4	6.91	1.06	6.65	0.02	0.18
0.17	0.17	0.50	0.5	7.79	1.08	7.51	0.02	0.19
0.18	0.18	0.58	0.6	8.67	1.11	8.38	0.02	0.20
0.19	0.19	0.66	0.8	9.54	1.14	9.24	0.02	0.21
0.20	0.20	0.76	0.9	10.42	1.18	10.10	0.02	0.22
0.21	0.21	0.87	1.1	11.30	1.22	10.96	0.02	0.23
0.22	0.22	0.98	1.2	12.18	1.26	11.83	0.02	0.24
0.23	0.23	1.10	1.4	13.06	1.30	12.69	0.03	0.26
0.24	0.24	1.23	1.7	13.93	1.34	13.55	0.03	0.27
0.25	0.25	1.37	1.9	14.81	1.39	14.41	0.03	0.28
0.26	0.26	1.52	2.2	15.69	1.43	15.27	0.03	0.29
0.27	0.27	1.68	2.5	16.57	1.47	16.14	0.03	0.30
0.28	0.28	1.84	2.8	17.45	1.51	17.00	0.04	0.32
0.29	0.29	2.02	3.1	18.32	1.56	17.86	0.04	0.33
0.30	0.30	2.20	3.5	19.20	1.60	18.72	0.04	0.34
0.31	0.31	2.39	3.9	20.08	1.64	19.59	0.04	0.35
0.32	0.32	2.59	4.4	20.96	1.68	20.45	0.04	0.36
0.33	0.33	2.80	4.8	21.84	1.72	21.31	0.05	0.38
0.34	0.34	3.02	5.3	22.71	1.76	22.17	0.05	0.39
0.35	0.35	3.25	5.9	23.59	1.80	23.03	0.05	0.40
0.36	0.36	3.48	6.4	24.47	1.84	23.90	0.05	0.41
0.37	0.37	3.72	7.0	25.35	1.88	24.76	0.06	0.43
0.38	0.38	3.98	7.7	26.23	1.92	25.62	0.06	0.44
0.39	0.39	4.24	8.3	27.10	1.96	26.48	0.06	0.45
0.40	0.40	4.50	9.0	27.98	2.00	27.35	0.06	0.46
0.41	0.41	4.78	9.8	28.86	2.04	28.21	0.06	0.47
0.42	0.42	5.06	10.7	28.88	2.12	28.21	0.07	0.49
0.43	0.43	5.35	11.8	28.90	2.20	28.22	0.08	0.51

STD CURB THROUGH OUT

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	13.9	28.94	2.35	28.23	0.09	0.54	
0.46	0.46	6.19	15.0	28.96	2.42	28.23	0.09	0.55	
0.47	0.47	6.48	16.1	28.98	2.49	28.24	0.10	0.57	
0.48	0.48	6.76	17.3	29.01	2.56	28.24	0.10	0.58	
0.49	0.49	7.04	18.5	29.03	2.63	28.25	0.11	0.60	
0.50	0.50	7.32	19.8	29.05	2.70	28.25	0.11	0.61	
0.51	0.51	7.61	21.1	29.07	2.77	28.26	0.12	0.63	
0.52	0.52	7.89	22.4	29.09	2.84	28.26	0.12	0.64	
0.53	0.53	8.17	23.7	29.11	2.90	28.27	0.13	0.66	
0.54	0.54	8.45	25.1	29.13	2.97	28.27	0.14	0.68	
0.55	0.55	8.74	26.5	29.15	3.03	28.28	0.14	0.69	
0.56	0.56	9.02	27.9	29.17	3.10	28.28	0.15	0.71	
0.57	0.57	9.30	29.4	29.19	3.16	28.29	0.15	0.72	
0.58	0.58	9.59	30.9	29.21	3.22	28.29	0.16	0.74	
0.59	0.59	9.87	32.4	29.23	3.28	28.30	0.17	0.76	
0.60	0.60	10.15	33.9	29.25	3.34	28.30	0.17	0.77	
0.61	0.61	10.43	35.5	29.27	3.40	28.31	0.18	0.79	
0.62	0.62	10.72	37.1	29.29	3.46	28.31	0.19	0.81	
0.63	0.63	11.00	38.8	29.31	3.52	28.32	0.19	0.82	
0.64	0.64	11.28	40.4	29.34	3.58	28.32	0.20	0.84	
0.65	0.65	11.57	42.1	29.36	3.64	28.33	0.21	0.86	
0.66	0.66	11.85	43.8	29.38	3.70	28.33	0.21	0.87	STREET CAPACITY
0.67	0.67	12.13	45.5	29.40	3.75	28.34	0.22	0.89	
0.68	0.68	12.42	46.3	30.44	3.72	30.30	0.22	0.90	
0.69	0.69	12.72	47.1	31.49	3.70	31.34	0.21	0.90	
0.70	0.70	13.06	47.2	33.45	3.62	32.39	0.20	0.90	
0.71	0.71	13.39	48.2	34.50	3.60	33.44	0.20	0.91	
0.72	0.72	13.73	49.3	35.54	3.59	34.48	0.20	0.92	
0.73	0.73	14.08	50.4	36.59	3.58	35.53	0.20	0.93	
0.74	0.74	14.44	51.6	37.64	3.57	36.58	0.20	0.94	
0.75	0.75	14.81	52.9	38.68	3.57	37.62	0.20	0.95	
0.76	0.76	15.19	54.2	39.73	3.57	38.67	0.20	0.96	
0.77	0.77	15.58	55.6	40.78	3.57	39.72	0.20	0.97	ACTUAL Q=56.09
0.78	0.78	15.98	57.0	41.83	3.57	40.77	0.20	0.98	
0.79	0.79	16.40	58.5	42.87	3.57	41.81	0.20	0.99	
0.80	0.80	16.82	60.1	43.92	3.57	42.86	0.20	1.00	
0.81	0.81	17.25	61.7	44.97	3.58	43.91	0.20	1.01	
0.82	0.82	17.70	63.4	46.01	3.58	44.95	0.20	1.02	
0.83	0.83	18.15	65.1	47.06	3.59	46.00	0.20	1.03	

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MOUNTAIN GATE LANE @ LOT 137

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.19	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.30	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.40	0.94	0.00	0.03
0.04	0.04	0.03	0.0	1.32	0.48	1.25	0.00	0.04
0.05	0.05	0.04	0.0	1.64	0.56	1.56	0.00	0.05
0.06	0.06	0.06	0.0	1.97	0.63	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	0.70	2.19	0.01	0.08
0.08	0.08	0.10	0.1	2.63	0.77	2.50	0.01	0.09
0.09	0.09	0.13	0.1	2.96	0.83	2.81	0.01	0.10
0.10	0.10	0.16	0.1	3.29	0.89	3.13	0.01	0.11
0.11	0.11	0.19	0.2	3.62	0.95	3.44	0.01	0.12
0.12	0.12	0.23	0.2	3.95	1.00	3.75	0.02	0.14
0.13	0.13	0.26	0.3	4.28	1.06	4.07	0.02	0.15
0.14	0.14	0.31	0.3	5.15	1.04	4.93	0.02	0.16
0.15	0.15	0.36	0.4	6.03	1.04	5.79	0.02	0.17
0.16	0.16	0.43	0.4	6.91	1.06	6.65	0.02	0.18
0.17	0.17	0.50	0.5	7.79	1.08	7.51	0.02	0.19
0.18	0.18	0.58	0.6	8.67	1.11	8.38	0.02	0.20
0.19	0.19	0.66	0.8	9.54	1.14	9.24	0.02	0.21
0.20	0.20	0.76	0.9	10.42	1.18	10.10	0.02	0.22
0.21	0.21	0.87	1.1	11.30	1.22	10.96	0.02	0.23
0.22	0.22	0.98	1.2	12.18	1.26	11.83	0.02	0.24
0.23	0.23	1.10	1.4	13.06	1.30	12.69	0.03	0.26
0.24	0.24	1.23	1.7	13.93	1.34	13.55	0.03	0.27
0.25	0.25	1.37	1.9	14.81	1.39	14.41	0.03	0.28
0.26	0.26	1.52	2.2	15.69	1.43	15.27	0.03	0.29
0.27	0.27	1.68	2.5	16.57	1.47	16.14	0.03	0.30
0.28	0.28	1.84	2.8	17.45	1.51	17.00	0.04	0.32
0.29	0.29	2.02	3.1	18.32	1.56	17.86	0.04	0.33
0.30	0.30	2.20	3.5	19.20	1.60	18.72	0.04	0.34
0.31	0.31	2.39	3.9	20.08	1.64	19.59	0.04	0.35
0.32	0.32	2.59	4.4	20.96	1.68	20.45	0.04	0.36
0.33	0.33	2.80	4.8	21.84	1.72	21.31	0.05	0.38
0.34	0.34	3.02	5.3	22.71	1.76	22.17	0.05	0.39
0.35	0.35	3.25	5.9	23.59	1.80	23.03	0.05	0.40
0.36	0.36	3.48	6.4	24.47	1.84	23.90	0.05	0.41
0.37	0.37	3.72	7.0	25.35	1.88	24.76	0.06	0.43
0.38	0.38	3.98	7.7	26.23	1.92	25.62	0.06	0.44
0.39	0.39	4.24	8.3	27.10	1.96	26.48	0.06	0.45
0.40	0.40	4.50	9.0	27.98	2.00	27.35	0.06	0.46
0.41	0.41	4.78	9.8	28.86	2.04	28.21	0.06	0.47
0.42	0.42	5.06	10.7	28.88	2.12	28.21	0.07	0.49
0.43	0.43	5.35	11.8	28.90	2.20	28.22	0.08	0.51

STD CURB THROUGH CUT

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	13.9	28.94	2.35	28.23	0.09	0.54	
0.46	0.46	6.19	15.0	28.96	2.42	28.23	0.09	0.55	
0.47	0.47	6.48	16.1	28.98	2.49	28.24	0.10	0.57	
0.48	0.48	6.76	17.3	29.01	2.56	28.24	0.10	0.58	
0.49	0.49	7.04	18.5	29.03	2.63	28.25	0.11	0.60	
0.50	0.50	7.32	19.8	29.05	2.70	28.25	0.11	0.61	
0.51	0.51	7.61	21.1	29.07	2.77	28.26	0.12	0.63	
0.52	0.52	7.89	22.4	29.09	2.84	28.26	0.12	0.64	
0.53	0.53	8.17	23.7	29.11	2.90	28.27	0.13	0.66	
0.54	0.54	8.45	25.1	29.13	2.97	28.27	0.14	0.68	
0.55	0.55	8.74	26.5	29.15	3.03	28.28	0.14	0.69	
0.56	0.56	9.02	27.9	29.17	3.10	28.28	0.15	0.71	
0.57	0.57	9.30	29.4	29.19	3.16	28.29	0.15	0.72	
0.58	0.58	9.59	30.9	29.21	3.22	28.29	0.16	0.74	
0.59	0.59	9.87	32.4	29.23	3.28	28.30	0.17	0.76	
0.60	0.60	10.15	33.9	29.25	3.34	28.30	0.17	0.77	
0.61	0.61	10.43	35.5	29.27	3.40	28.31	0.18	0.79	
0.62	0.62	10.72	37.1	29.29	3.46	28.31	0.19	0.81	
0.63	0.63	11.00	38.8	29.31	3.52	28.32	0.19	0.82	
0.64	0.64	11.28	40.4	29.34	3.58	28.32	0.20	0.84	
0.65	0.65	11.57	42.1	29.36	3.64	28.33	0.21	0.86	
0.66	0.66	11.85	43.8	29.38	3.70	28.33	0.21	0.87	STREET CAPACITY
0.67	0.67	12.13	45.5	29.40	3.75	28.34	0.22	0.89	
0.68	0.68	12.42	46.3	30.44	3.72	30.30	0.22	0.90	
0.69	0.69	12.72	47.1	31.49	3.70	31.34	0.21	0.90	
0.70	0.70	13.06	47.2	33.45	3.62	32.39	0.20	0.90	
0.71	0.71	13.39	48.2	34.50	3.60	33.44	0.20	0.91	
0.72	0.72	13.73	49.3	35.54	3.59	34.48	0.20	0.92	
0.73	0.73	14.08	50.4	36.59	3.58	35.53	0.20	0.93	
0.74	0.74	14.44	51.6	37.64	3.57	36.58	0.20	0.94	
0.75	0.75	14.81	52.9	38.68	3.57	37.62	0.20	0.95	
0.76	0.76	15.19	54.2	39.73	3.57	38.67	0.20	0.96	
0.77	0.77	15.58	55.6	40.78	3.57	39.72	0.20	0.97	
0.78	0.78	15.98	57.0	41.83	3.57	40.77	0.20	0.98	
0.79	0.79	16.40	58.5	42.87	3.57	41.81	0.20	0.99	
0.80	0.80	16.82	60.1	43.92	3.57	42.86	0.20	1.00	
0.81	0.81	17.25	61.7	44.97	3.58	43.91	0.20	1.01	
0.82	0.82	17.70	63.4	46.01	3.58	44.95	0.20	1.02	
0.83	0.83	18.15	65.1	47.06	3.59	46.00	0.20	1.03	

ACTUAL Q = 86.68

$11.34 + 16.17 + 20.78 + 27.47 + (14 \times .78) = 86.68 \text{ cfs}$

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MOUNTAIN GATE LANE @ LOT #2

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH INC	FLOW AREA	FLOW RATE	WETTED PER	FLOW VEL	TOPWID	VEL HEAD	ENERGY HEAD
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.01	0.01	0.00	0.0	0.33	0.19	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.30	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.40	0.94	0.00	0.03
0.04	0.04	0.03	0.0	1.32	0.48	1.25	0.00	0.04
0.05	0.05	0.04	0.0	1.64	0.56	1.56	0.00	0.05
0.06	0.06	0.06	0.0	1.97	0.63	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	0.70	2.19	0.01	0.08
0.08	0.08	0.10	0.1	2.63	0.77	2.50	0.01	0.09
0.09	0.09	0.13	0.1	2.96	0.83	2.81	0.01	0.10
0.10	0.10	0.16	0.1	3.29	0.89	3.13	0.01	0.11
0.11	0.11	0.19	0.2	3.62	0.95	3.44	0.01	0.12
0.12	0.12	0.23	0.2	3.95	1.00	3.75	0.02	0.14
0.13	0.13	0.26	0.3	4.28	1.06	4.07	0.02	0.15
0.14	0.14	0.31	0.3	5.15	1.04	4.93	0.02	0.16
0.15	0.15	0.36	0.4	6.03	1.04	5.79	0.02	0.17
0.16	0.16	0.43	0.4	6.91	1.06	6.65	0.02	0.18
0.17	0.17	0.50	0.5	7.79	1.08	7.51	0.02	0.19
0.18	0.18	0.58	0.6	8.67	1.11	8.38	0.02	0.20
0.19	0.19	0.66	0.8	9.54	1.14	9.24	0.02	0.21
0.20	0.20	0.76	0.9	10.42	1.18	10.10	0.02	0.22
0.21	0.21	0.87	1.1	11.30	1.22	10.96	0.02	0.23
0.22	0.22	0.98	1.2	12.18	1.26	11.83	0.02	0.24
0.23	0.23	1.10	1.4	13.06	1.30	12.69	0.03	0.26
0.24	0.24	1.23	1.7	13.93	1.34	13.55	0.03	0.27
0.25	0.25	1.37	1.9	14.81	1.39	14.41	0.03	0.28
0.26	0.26	1.52	2.2	15.69	1.43	15.27	0.03	0.29
0.27	0.27	1.68	2.5	16.57	1.47	16.14	0.03	0.30
0.28	0.28	1.84	2.8	17.45	1.51	17.00	0.04	0.32
0.29	0.29	2.02	3.1	18.32	1.56	17.86	0.04	0.33
0.30	0.30	2.20	3.5	19.20	1.60	18.72	0.04	0.34
0.31	0.31	2.39	3.9	20.08	1.64	19.59	0.04	0.35
0.32	0.32	2.59	4.4	20.96	1.68	20.45	0.04	0.36
0.33	0.33	2.80	4.8	21.84	1.72	21.31	0.05	0.38
0.34	0.34	3.02	5.3	22.71	1.76	22.17	0.05	0.39
0.35	0.35	3.25	5.9	23.59	1.80	23.03	0.05	0.40
0.36	0.36	3.48	6.4	24.47	1.84	23.90	0.05	0.41
0.37	0.37	3.72	7.0	25.35	1.88	24.76	0.06	0.43
0.38	0.38	3.98	7.7	26.23	1.92	25.62	0.06	0.44
0.39	0.39	4.24	8.3	27.10	1.96	26.48	0.06	0.45
0.40	0.40	4.50	9.0	27.98	2.00	27.35	0.06	0.46
0.41	0.41	4.78	9.8	28.86	2.04	28.21	0.06	0.47
0.42	0.42	5.06	10.7	28.88	2.12	28.21	0.07	0.49
0.43	0.43	5.35	11.8	28.90	2.20	28.22	0.08	0.51

STD CURB THROUGH CUT

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	13.9	28.94	2.35	28.23	0.09	0.54	
0.46	0.46	6.19	15.0	28.96	2.42	28.23	0.09	0.55	
0.47	0.47	6.48	16.1	28.98	2.49	28.24	0.10	0.57	
0.48	0.48	6.76	17.3	29.01	2.56	28.24	0.10	0.58	
0.49	0.49	7.04	18.5	29.03	2.63	28.25	0.11	0.60	
0.50	0.50	7.32	19.8	29.05	2.70	28.25	0.11	0.61	
0.51	0.51	7.61	21.1	29.07	2.77	28.26	0.12	0.63	
0.52	0.52	7.89	22.4	29.09	2.84	28.26	0.12	0.64	
0.53	0.53	8.17	23.7	29.11	2.90	28.27	0.13	0.66	
0.54	0.54	8.45	25.1	29.13	2.97	28.27	0.14	0.68	
0.55	0.55	8.74	26.5	29.15	3.03	28.28	0.14	0.69	
0.56	0.56	9.02	27.9	29.17	3.10	28.28	0.15	0.71	
0.57	0.57	9.30	29.4	29.19	3.16	28.29	0.15	0.72	
0.58	0.58	9.59	30.9	29.21	3.22	28.29	0.16	0.74	
0.59	0.59	9.87	32.4	29.23	3.28	28.30	0.17	0.76	
0.60	0.60	10.15	33.9	29.25	3.34	28.30	0.17	0.77	
0.61	0.61	10.43	35.5	29.27	3.40	28.31	0.18	0.79	
0.62	0.62	10.72	37.1	29.29	3.46	28.31	0.19	0.81	
0.63	0.63	11.00	38.8	29.31	3.52	28.32	0.19	0.82	
0.64	0.64	11.28	40.4	29.34	3.58	28.32	0.20	0.84	
0.65	0.65	11.57	42.1	29.36	3.64	28.33	0.21	0.86	
0.66	0.66	11.85	43.8	29.38	3.70	28.33	0.21	0.87	STREET CAPACITY
0.67	0.67	12.13	45.5	29.40	3.75	28.34	0.22	0.89	
0.68	0.68	12.42	46.3	30.44	3.72	30.30	0.22	0.90	
0.69	0.69	12.72	47.1	31.49	3.70	31.34	0.21	0.90	
0.70	0.70	13.06	47.2	33.45	3.62	32.39	0.20	0.90	
0.71	0.71	13.39	48.2	34.50	3.60	33.44	0.20	0.91	
0.72	0.72	13.73	49.3	35.54	3.59	34.48	0.20	0.92	
0.73	0.73	14.08	50.4	36.59	3.58	35.53	0.20	0.93	
0.74	0.74	14.44	51.6	37.64	3.57	36.58	0.20	0.94	
0.75	0.75	14.81	52.9	38.68	3.57	37.62	0.20	0.95	
0.76	0.76	15.19	54.2	39.73	3.57	38.67	0.20	0.96	
0.77	0.77	15.58	55.6	40.78	3.57	39.72	0.20	0.97	
0.78	0.78	15.98	57.0	41.83	3.57	40.77	0.20	0.98	
0.79	0.79	16.40	58.5	42.87	3.57	41.81	0.20	0.99	
0.80	0.80	16.82	60.1	43.92	3.57	42.86	0.20	1.00	
0.81	0.81	17.25	61.7	44.97	3.58	43.91	0.20	1.01	
0.82	0.82	17.70	63.4	46.01	3.58	44.95	0.20	1.02	
0.83	0.83	18.15	65.1	47.06	3.59	46.00	0.20	1.03	ACTUAL Q=114.82

$11.34 + 16.17 + 20.78 + 27.47 + 24.24 + (19 \times 0.78) = 114.82$

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MOUNTAIN GATE LANE

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

□ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.19	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.30	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.40	0.94	0.00	0.03
0.04	0.04	0.03	0.0	1.32	0.48	1.25	0.00	0.04
0.05	0.05	0.04	0.0	1.64	0.56	1.56	0.00	0.05
0.06	0.06	0.06	0.0	1.97	0.63	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	0.70	2.19	0.01	0.08
0.08	0.08	0.10	0.1	2.63	0.77	2.50	0.01	0.09
0.09	0.09	0.13	0.1	2.96	0.83	2.81	0.01	0.10
0.10	0.10	0.16	0.1	3.29	0.89	3.13	0.01	0.11
0.11	0.11	0.19	0.2	3.62	0.95	3.44	0.01	0.12
0.12	0.12	0.23	0.2	3.95	1.00	3.75	0.02	0.14
0.13	0.13	0.26	0.3	4.28	1.06	4.07	0.02	0.15
0.14	0.14	0.31	0.3	5.15	1.04	4.93	0.02	0.16
0.15	0.15	0.36	0.4	6.03	1.04	5.79	0.02	0.17
0.16	0.16	0.43	0.4	6.91	1.06	6.65	0.02	0.18
0.17	0.17	0.50	0.5	7.79	1.08	7.51	0.02	0.19
0.18	0.18	0.58	0.6	8.67	1.11	8.38	0.02	0.20
0.19	0.19	0.66	0.8	9.54	1.14	9.24	0.02	0.21
0.20	0.20	0.76	0.9	10.42	1.18	10.10	0.02	0.22
0.21	0.21	0.87	1.1	11.30	1.22	10.96	0.02	0.23
0.22	0.22	0.98	1.2	12.18	1.26	11.83	0.02	0.24
0.23	0.23	1.10	1.4	13.06	1.30	12.69	0.03	0.26
0.24	0.24	1.23	1.7	13.93	1.34	13.55	0.03	0.27
0.25	0.25	1.37	1.9	14.81	1.39	14.41	0.03	0.28
0.26	0.26	1.52	2.2	15.69	1.43	15.27	0.03	0.29
0.27	0.27	1.68	2.5	16.57	1.47	16.14	0.03	0.30
0.28	0.28	1.84	2.8	17.45	1.51	17.00	0.04	0.32
0.29	0.29	2.02	3.1	18.32	1.56	17.86	0.04	0.33
0.30	0.30	2.20	3.5	19.20	1.60	18.72	0.04	0.34
0.31	0.31	2.39	3.9	20.08	1.64	19.59	0.04	0.35
0.32	0.32	2.59	4.4	20.96	1.68	20.45	0.04	0.36
0.33	0.33	2.80	4.8	21.84	1.72	21.31	0.05	0.38
0.34	0.34	3.02	5.3	22.71	1.76	22.17	0.05	0.39
0.35	0.35	3.25	5.9	23.59	1.80	23.03	0.05	0.40
0.36	0.36	3.48	6.4	24.47	1.84	23.90	0.05	0.41
0.37	0.37	3.72	7.0	25.35	1.88	24.76	0.06	0.43
0.38	0.38	3.98	7.7	26.23	1.92	25.62	0.06	0.44
0.39	0.39	4.24	8.3	27.10	1.96	26.48	0.06	0.45
0.40	0.40	4.50	9.0	27.98	2.00	27.35	0.06	0.46
0.41	0.41	4.78	9.8	28.86	2.04	28.21	0.06	0.47
0.42	0.42	5.06	10.7	28.88	2.12	28.21	0.07	0.49
0.43	0.43	5.35	11.8	28.90	2.20	28.22	0.08	0.51

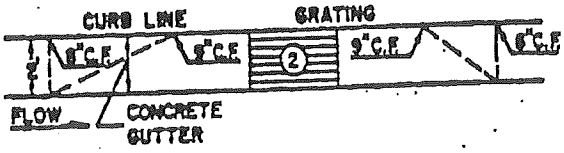
STD CURB THROUGH CUT

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	13.9	28.94	2.35	28.23	0.09	0.54	
0.46	0.46	6.19	15.0	28.96	2.42	28.23	0.09	0.55	
0.47	0.47	6.48	16.1	28.98	2.49	28.24	0.10	0.57	
0.48	0.48	6.76	17.3	29.01	2.56	28.24	0.10	0.58	
0.49	0.49	7.04	18.5	29.03	2.63	28.25	0.11	0.60	
0.50	0.50	7.32	19.8	29.05	2.70	28.25	0.11	0.61	
0.51	0.51	7.61	21.1	29.07	2.77	28.26	0.12	0.63	
0.52	0.52	7.89	22.4	29.09	2.84	28.26	0.12	0.64	
0.53	0.53	8.17	23.7	29.11	2.90	28.27	0.13	0.66	
0.54	0.54	8.45	25.1	29.13	2.97	28.27	0.14	0.68	
0.55	0.55	8.74	26.5	29.15	3.03	28.28	0.14	0.69	
0.56	0.56	9.02	27.9	29.17	3.10	28.28	0.15	0.71	
0.57	0.57	9.30	29.4	29.19	3.16	28.29	0.15	0.72	
0.58	0.58	9.59	30.9	29.21	3.22	28.29	0.16	0.74	
0.59	0.59	9.87	32.4	29.23	3.28	28.30	0.17	0.76	
0.60	0.60	10.15	33.9	29.25	3.34	28.30	0.17	0.77	
0.61	0.61	10.43	35.5	29.27	3.40	28.31	0.18	0.79	
0.62	0.62	10.72	37.1	29.29	3.46	28.31	0.19	0.81	
0.63	0.63	11.00	38.8	29.31	3.52	28.32	0.19	0.82	
0.64	0.64	11.28	40.4	29.34	3.58	28.32	0.20	0.84	
0.65	0.65	11.57	42.1	29.36	3.64	28.33	0.21	0.86	
0.66	0.66	11.85	43.8	29.38	3.70	28.33	0.21	0.87	STREET CAPACITY
0.67	0.67	12.13	45.5	29.40	3.75	28.34	0.22	0.89	
0.68	0.68	12.42	46.3	30.44	3.72	30.30	0.22	0.90	
0.69	0.69	12.72	47.1	31.49	3.70	31.34	0.21	0.90	
0.70	0.70	13.06	47.2	33.45	3.62	32.39	0.20	0.90	
0.71	0.71	13.39	48.2	34.50	3.60	33.44	0.20	0.91	
0.72	0.72	13.73	49.3	35.54	3.59	34.48	0.20	0.92	
0.73	0.73	14.08	50.4	36.59	3.58	35.53	0.20	0.93	
0.74	0.74	14.44	51.6	37.64	3.57	36.58	0.20	0.94	
0.75	0.75	14.81	52.9	38.68	3.57	37.62	0.20	0.95	
0.76	0.76	15.19	54.2	39.73	3.57	38.67	0.20	0.96	
0.77	0.77	15.58	55.6	40.78	3.57	39.72	0.20	0.97	
0.78	0.78	15.98	57.0	41.83	3.57	40.77	0.20	0.98	
0.79	0.79	16.40	58.5	42.87	3.57	41.81	0.20	0.99	
0.80	0.80	16.82	60.1	43.92	3.57	42.86	0.20	1.00	
0.81	0.81	17.25	61.7	44.97	3.58	43.91	0.20	1.01	
0.82	0.82	17.70	63.4	46.01	3.58	44.95	0.20	1.02	
0.83	0.83	18.15	65.1	47.06	3.59	46.00	0.20	1.03	ACTUAL Q = 1/3

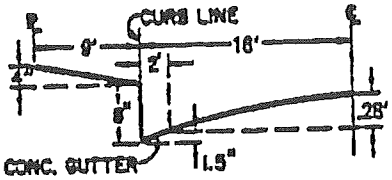
Mountain Gate Lane

S = 0.6%

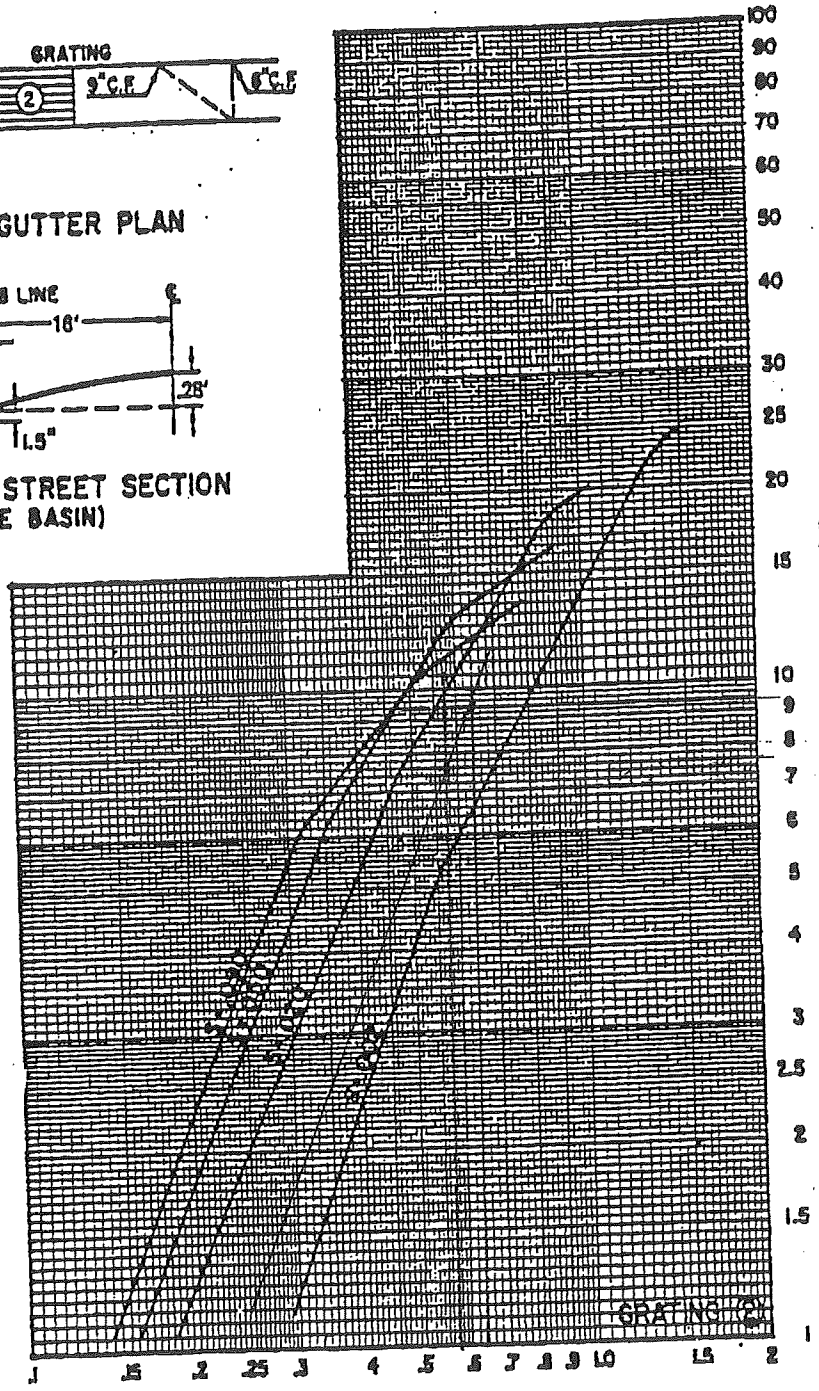
GRATING CAPACITIES FOR TYPE "A" , "C" and "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



D = DEPTH OF FLOW (FT.) ABOVE NORMAL GUTTER GRADE

d = 0.58 ft
Q = 7.5 cfs

d = 0.64 ft
Q = 9.4 cfs

d = 0.63 ft
Q = 9.4 cfs

d = 0.65 ft
Q = 9.4 cfs

PLATE 22.3 D-5

APPENDIX C

DRAFT INFRASTRUCTURE LIST

Current DRC
Project No. _____

Date Submitted: September 8, 2004
Date Site Plan for Bldg Permit Approv _____
Date Site Plan for Sub. Approved: _____

Date Preliminary Plat Approved: _____

Date Preliminary Plat Expires: _____

DRB Project No. _____

Figure 12

INFRASTRUCTURE LIST

EXHIBIT "A"
TO SUBDIVISION IMPROVEMENTS AGREEMENT
DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LIST

SUN GATE ESTATES SUBDIVISION
(TRACT 31A-1-A, LANDS OF SALAZAR FAMILY TRUST, SALAZAR QUATRO TRUST, JSJ INVESTMENT CO. AND FALBA HANNETT)

Following is a summary of PUBLIC/PRIVATE Infrastructure required to be constructed or financially guaranteed for the above development. This Listing is not necessarily a complete listing. During the SIA process and/or in the review of the construction drawings, if the DRC Chair determines that appurtenant items and/or unforeseen items have not been included in the infrastructure listing, the DRC Chair may include those items in the listing and related financial guarantee. Likewise, if the DRC Chair determines that appurtenant or non-essential items can be deleted from the listing, those items may be deleted as well as the related portions of the financial guarantees. All such revisions require approval by the DRC Chair, the User Department and agent/owner. If such approvals are obtained, these revisions to the listing will be incorporated administratively. In addition, any unforeseen items which arise during construction which which are necessary to complete the project and which normally are the Subdivider's responsibility will be required as a condition of project acceptance and close out by the City.

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
			OFFSITE PUBLIC ROADWAY IMPROVEMENTS - PHASE 1						
		30' F - F (WEST HALF)	ARTERIAL PAVING W/ PCC STD & MED CURB & GUTTER & 6' WIDE PCC SIDEWALK ON WEST SIDE ONLY	98TH STREET	BLAKE ROAD	AMOLE MESA AVENUE	/	/	/
		24' F-EOA (SOUTH HALF)	MAJOR LOCAL PAVING W/ PCC STD CURB & GUTTER & 4' WIDE PCC SIDEWALK ON SOUTH SIDE ONLY	BLAKE ROAD	OPEN RANGE AVENUE	98TH STREET	/	/	/
		24' F-EOA (SOUTH HALF)	MAJOR LOCAL PAVING W/ PCC STD CURB & GUTTER & 4' WIDE PCC SIDEWALK ON SOUTH SIDE ONLY	OPEN RANGE AVENUE	BLAKE ROAD	MESA ARENOSO DRIVE	/	/	/
							/	/	/
			ONSITE PRIVATE ROADWAY IMPROVEMENTS - PHASE 1						
		40' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, 6' MEDIAN & 6' WIDE PCC SIDEWALK ON SOUTH SIDE ONLY	STONE GATE WAY	OPEN RANGE AVENUE	SUN CANYON LANE	/	/	/
		40' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, 6' MEDIAN & 6' WIDE PCC SIDEWALK ON WEST SIDE ONLY	VALLEY GATE WAY	BLAKE ROAD	MORNING SUN TRAIL	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES *	SUN CANYON LANE	LOT 1/ LOT 115	MORNING SUN TRAIL	/	/	/
		24' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON WEST SIDE ONLY *	SUN CANYON LANE	MORNING SUN TRAIL	NORTH STUB STREET TERMINUS	/	/	/

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES *	MORNING SUN TRAIL	SUN CANYON LANE	MOUNTAIN GATE LANE	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES *	SUN MOUNTAIN TRAIL	SUN CANYON LANE	MOUNTAIN GATE LANE	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES *	SUN CHASER TRAIL	SUN CANYON LANE	MOUNTAIN GATE LANE	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES *	MOUNTAIN GATE LANE	LOT 34/ LOT 137	MORNING SUN TRAIL	/	/	/
		24' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON EAST SIDE ONLY *	MOUNTAIN GATE LANE	MORNING SUN TRAIL	NORTH STUB STREET TERMINUS	/	/	/
							/	/	/

* SIDEWALKS DEFERRED PER EXHIBIT. SIDEWALKS WAIVED ON EAST AND NORTH SIDE OF SUN CANYON LANE STUB STREET AND ON WEST AND NORTH SIDE OF MOUNTAIN GATE LANE STUB STREET.

PUBLIC WATERLINE IMPROVEMENTS - PHASE 1

		10" DIA	PRESSURE REDUCING VALVE	SE CORNER OF BLAKE ROAD AND OPEN RANGE AVENUE			/ / /
		12" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	BLAKE ROAD	EXIST. 12" WATERLINE IN OPEN RANGE AVENUE	SUN CANYON LANE	/ / /
		12" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	SUN CANYON LANE	BLAKE ROAD	LOT 1/ LOT 115	/ / /
		12" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	MORNING SUN TRAIL	SUN CANYON LANE	MOUNTAIN GATE TRAIL	/ / /
		8" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S, RJ'S	MOUNTAIN GATE TRAIL	AMOLE MESA AVENUE	MORNING SUN TRAIL	/ / /
		4" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S, RJ'S & REQ'D PRV	MOUNTAIN GATE TRAIL	MORNING SUN TRAIL	NORTH STUB STREET TERMINUS	/ / /
		6" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	SUN MOUNTAIN TRAIL	SUN CANYON LANE	MOUNTAIN GATE LANE	/ / /
		6" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	SUN CHASER TRAIL	SUN CANYON LANE	MOUNTAIN GATE LANE	/ / /
							/ / /

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
		PUBLIC SANITARY SEWER IMPROVEMENTS - PHASE 1							
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	SUN CANYON LANE	LOT 1/ LOT 115	LOT 12	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	MORNING SUN TRAIL	SUN CANYON LANE	MOUNTAIN GATE LANE	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	SUN MOUNTAIN TRAIL	SUN CANYON LANE	MOUNTAIN GATE TRAIL	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	SUN CHASER TRAIL	SUN CANYON LANE	MOUNTAIN GATE LANE	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	MOUNTAIN GATE LANE	LOT 22	AMOLE MESA AVENUE	/	/	/
							/	/	/
		PUBLIC STORM DRAIN IMPROVEMENTS - PHASE 1							
		24"-48" DIA	RCP W/ NEC. MH'S, LATERALS & INLETS	MOUNTAIN GATE LANE	SUN MOUNTAIN TRAIL	AMOLE MESA AVENUE	/	/	/
		30" DIA	RCP W/ NEC. MH'S, LATERALS & INLETS				/	/	/
		A GRADING AND DRAINAGE CERTIFICATION OF THE APPROVED GRADING PLAN IS REQUIRED PRIOR TO THE RELEASE OF FINANCIAL GUARANTEES.					/	/	/
		OFFSITE PUBLIC ROADWAY IMPROVEMENTS - PHASE 2							
		24' F-EOA (EAST HALF)	MAJOR LOCAL PAVING W/ PCC STD CURB & GUTTER & 4' WIDE PCC SIDEWALK ON EAST SIDE ONLY	MESA ARENOSO DRIVE	OPEN RANGE AVENUE	AMOLE MESA AVENUE	/	/	/
		24' F-EOA (NORTH HALF)	MAJOR LOCAL PAVING W/ PCC STD CURB & GUTTER & 4' WIDE PCC SIDEWALK ON NORTH SIDE ONLY	AMOLE MESA AVENUE	MESA ARENOSO DRIVE	98TH STREET	/	/	/

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
			ONSITE PRIVATE ROADWAY IMPROVEMENTS - PHASE 2						
		40' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, 6' MEDIAN & 6' WIDE PCC SIDEWALK ON EAST SIDE ONLY	TRAIL GATE WAY	AMOLE MESA AVENUE	CANYON GATE TRAIL	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES *	SUNNY SKY LANE	SUN CANYON LANE	CANYON GATE TRAIL	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES *	SUN CANYON LANE	SUNNY SKY LANE	LOT 115/ LOT 1	/	/	/
		24' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON WEST SIDE ONLY*	SUN CANYON LANE	SUNNY SKY LANE	SOUTH STUB STREET TERMINUS	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES*	WAGON GATE TRAIL	SUNNY SKY LANE	MOUNTAIN GATE LANE	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES*	CANYON GATE TRAIL	SUNNY SKY LANE	MOUNTAIN GATE LANE	/	/	/
		24' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON SOUTH SIDE ONLY*	CANYON GATE TRAIL	SUNNY SKY LANE	SOUTH STUB STREET TERMINUS	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES*	MOUNTAIN GATE LANE	CANYON GATE TRAIL	LOT 34/ LOT 137	/	/	/
		24' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON EAST SIDE ONLY*	MOUNTAIN GATE LANE	CANYON GATE TRAIL	STUB STREET TERMINUS	/	/	/
							/	/	/

* SIDEWALKS DEFERRED PER EXHIBIT. SIDEWALKS WAIVED ON EAST AND SOUTH SIDE OF SUN CANYON LANE STUB STREET; WEST AND SOUTH SIDE OF MOUNTAIN GATE LANE STUB STREET; NORTH AND WEST SIDE OF CANYON GATE TRAIL STUB STREET.

D-4

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
			PUBLIC WATERLINE IMPROVEMENTS - PHASE 2						
		10" DIA	PRESSURE REDUCING VALVE	SE CORNER OF BLAKE ROAD AND OPEN RANGE AVENUE			/	/	/
		12" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	BLAKE ROAD	EXIST. 12" WATERLINE IN OPEN RANGE AVENUE	SUN CANYON LANE	/	/	/
		12" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	SUN CANYON LANE	BLAKE ROAD	SUNNY SKY LANE	/	/	/
		4" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	SUN CANYON LANE	SUNNY SKY LANE	SOUTH STUB STREET TERMINUS	/	/	/
		12" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	SUNNY SKY LANE	SUN CANYON LANE	CANYON GATE TRAIL	/	/	/
		6" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	WAGON GATE TRAIL	SUNNY SKY LANE	MOUNTAIN GATE TRAIL	/	/	/
		8" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	CANYON GATE TRAIL	SUNNY SKY LANE	MOUNTAIN GATE TRAIL	/	/	/
		4" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	CANYON GATE TRAIL	SUNNY SKY LANE	WEST STUB STREET TERMINUS	/	/	/
		8" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	MOUNTAIN GATE LANE	LOT 34/ LOT 137	AMOLE MESA AVENUE	/	/	/
			PUBLIC SANITARY SEWER IMPROVEMENTS - PHASE 2						
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	SUN CANYON LANE	LOT 112	LOT 1/ LOT 115	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	SUNNY SKY LANE	SUN CANYON LANE	CANYON GATE TRAIL	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	WAGON GATE TRAIL	SUNNY SKY LANE	MOUNTAIN GATE LANE	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	CANYON GATE TRAIL	LOT 186	MOUNTAIN GATE LANE	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	MOUNTAIN GATE TRAIL	LOT 34/ LOT 137	AMOLE MESA AVENUE	/	/	/
							/	/	/

S-2

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
			PUBLIC STORM DRAIN IMPROVEMENTS - PHASE 2						
		24"-48" DIA	RCP W/ NEC. MH'S, LATERALS & INLETS	MOUNTAIN GATE LANE	LOT 34/ LOT 137	AMOLE MESA AVENUE	/	/	/
							/	/	/
							/	/	/

A GRADING AND DRAINAGE CERTIFICATION OF THE APPROVED GRADING PLAN IS REQUIRED PRIOR TO THE RELEASE OF FINANCIAL GUARANTEES.

AGENT/OWNER

CHRISTIAN J. SHOLTIS, PE — 9/7/2004
PREPARED BY: PRINT NAME — DATE

BOHANNAN HUSTON, INC.
FIRM:

SIGNATURE

MAXIMUM TIME ALLOWED TO CONSTRUCT IMPROVEMENTS WITHOUT A DRB EXTENSION

DEVELOPMENT REVIEW BOARD MEMBER APPROVALS

DRB CHAIR	DATE	PARKS & GENERAL SERVICES	DATE
TRANSPORTATION DEVELOPMENT	DATE	AMAFCA	DATE
UTILITY DEVELOPMENT	DATE	CITY ENGINEER	DATE
			DATE

DESIGN REVIEW COMMITTEE REVISIONS

REVISION	DATE	DRC CHAIR	USER DEPARTMENT	AGENT/OWNER

9/9-2

EXHIBITS

EXHIBIT 1 - PRELIMINARY PLAT

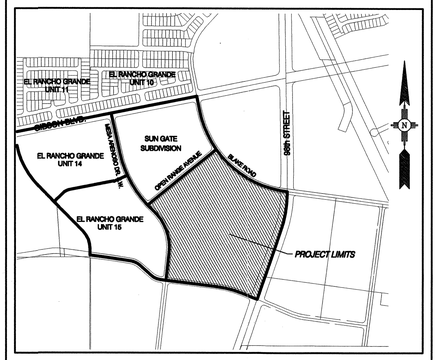
EXHIBIT 2 - GRADING PLAN

EXHIBIT 3 - EXISTING CONDITIONS BASIN MAP

EXHIBIT 4 - DEVELOPED CONDITIONS BASIN MAP

EXHIBIT 1

PRELIMINARY PLAT



N.T.S. VICINITY MAP ZONE ATLAS N-9-Z

N

100 50 0 100
1" = 100'

LEGEND

- SUBDIVISION BOUNDARY LINE
- EXISTING SUBDIVISION BOUNDARY
- EXISTING SUBDIVISION BOUNDARY
- NEW LOT LINE
- ADJOINING PROPERTY LINE
- ▲ CENTERLINE MONUMENT TO BE INSTALLED
- △ CITY OF ALBUQUERQUE SURVEY CONTROL MONUMENT

KEYED NOTES

(A) 10' PUBLIC UTILITY EASEMENT

PRELIMINARY PLAT FOR SUN GATE ESTATES

(REPLAT OF TRACT 31A-1-A LANDS OF SALAZAR FAMILY TRUST JSJ INVESTMENT COMPANY AND FALBA HANNETT)

LEGAL DESCRIPTION

REPLAT OF TRACT 31A-1-A LANDS OF SALAZAR FAMILY TRUST JSJ INVESTMENT COMPANY AND FALBA HANNETT. (BOOK 2003C, PAGE223, DATE 07-23-2003)

GENERAL NOTES

1. EXISTING ZONING: R-LT
   PROPOSED DEVELOPMENT: R-LT
2. PROPOSED NET ACREAGE: 45.00 AC
   NUMBER OF LOTS: 198
   PROPOSED DENSITY: 4.4 DU/AC
3. MIN. LOT DIMENSIONS: 46' X 73'
   MINIMUM LOT AREA: 3,358.00 SQFT
4. ALL UTILITIES AND STORM DRAIN IMPROVEMENTS ARE TO BE PUBLIC, AND TO BE DEDICATED TO THE CITY OF ALBUQUERQUE FOR MAINTENANCE.
5. LOT SETBACKS SHALL BE 15' FRONT 5' SIDEYARD, AND 15' BACKYARD (DRIVEWAYS SHALL BE 20' (MIN.) IN LENGTH).
6. NO INDIVIDUAL LOTS SHALL BE ALLOWED DIRECT ACCESS TO BLAKE ROAD, OPEN RANGE AVENUE, MESA ARENOSO DRIVE, AMOLE MESA AVENUE, AND/OR 98TH STREET.
7. PRIVATE ACCESS: THIS SUBDIVISION IS PLANNED TO BE A GATED COMMUNITY. ALL ROADS WITHIN THE DEVELOPMENT EXIST WITHIN TRACT "A". PRIVATE ACCESS, PUBLIC DRAINAGE, WATER, AND SANITARY SEWER EASEMENT ON TRACT "A".
8. HOMEOWNERS ASSOCIATION: THIS SUBDIVISION WILL HAVE A HOMEOWNERS ASSOCIATION. THE HOMEOWNERS ASSOCIATION WILL OWN TRACTS "A", "B", "C", "D", "E", "F", "G", "H", "I", "J", "K", "L", "M", "N", "O", "P", "Q", "R", "S", "T", "U", "V", "W", AND "X" AND BE RESPONSIBLE FOR MAINTENANCE INCLUDING STREET AND LANDSCAPE IMPROVEMENTS.
9. TRACTS "S" AND "T" ARE LANDSCAPE TRACTS ENCUMBERED BY PRIVATE PEDESTRIAN ACCESS EASEMENTS.
10. TRACTS "R", "S", "T", "U", AND "V" ARE LANDSCAPE TRACTS ENCUMBERED BY PUBLIC STORM DRAIN, SANITARY SEWER, AND WATER LINE EASEMENTS.

SITE DATA

ZONE ATLAS NO.	N-9-Z
ZONING	R-LT
MILES OF FULL WIDTH STREETS CREATED	1.57 MILES
NO. OF EXISTING PARCELS	1
NO. OF LOTS CREATED	198
DENSITY	4.4 DU/AC

SURVEY NOTES:

1. ALL BOUNDARY CORNERS SHOWN (●) ARE FOUND REBAR W\CAP.
2. ALL STREET CENTERLINE MONUMENTATION SHALL BE INSTALLED AT ALL CENTERLINE PC'S, PTS, ANGLE POINTS, AND STREET INTERSECTIONS AND SHOWN THUS (▲) AND WILL BE MARKED BY (4") ALUMINUM CAP STAMPED "CITY OF ALBUQUERQUE CENTERLINE MONUMENTATION MARKED, DO NOT DISTURB PLS 7719".
3. THE SUBDIVISION BOUNDARY WILL BE TIED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM AS SHOWN.
4. BASIS OF BEARINGS WILL BE NEW MEXICO STATE PLANE BEARINGS.
5. DISTANCES SHALL BE GROUND DISTANCES.
6. MANHOLES WILL BE OFFSET AT ALL POINTS OF CURVATURE, TANGENCY STREET INTERSECTIONS, AND ALL OTHER ANGLE POINTS TO ALLOW USE OF CENTERLINE MONUMENTATION.

APPROVED

CITY SURVEYOR DATE

J. MARK FERGUSON DATE
DIVISION PRESIDENT, D.R. HORTON INC.

Bohannan ▲ Huston INC.
Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335
ENGINEERING ▲ SPATIAL DATA ▲ ADVANCED TECHNOLOGIES

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September 07, 2004 - 2:57pm

EXHIBIT 2

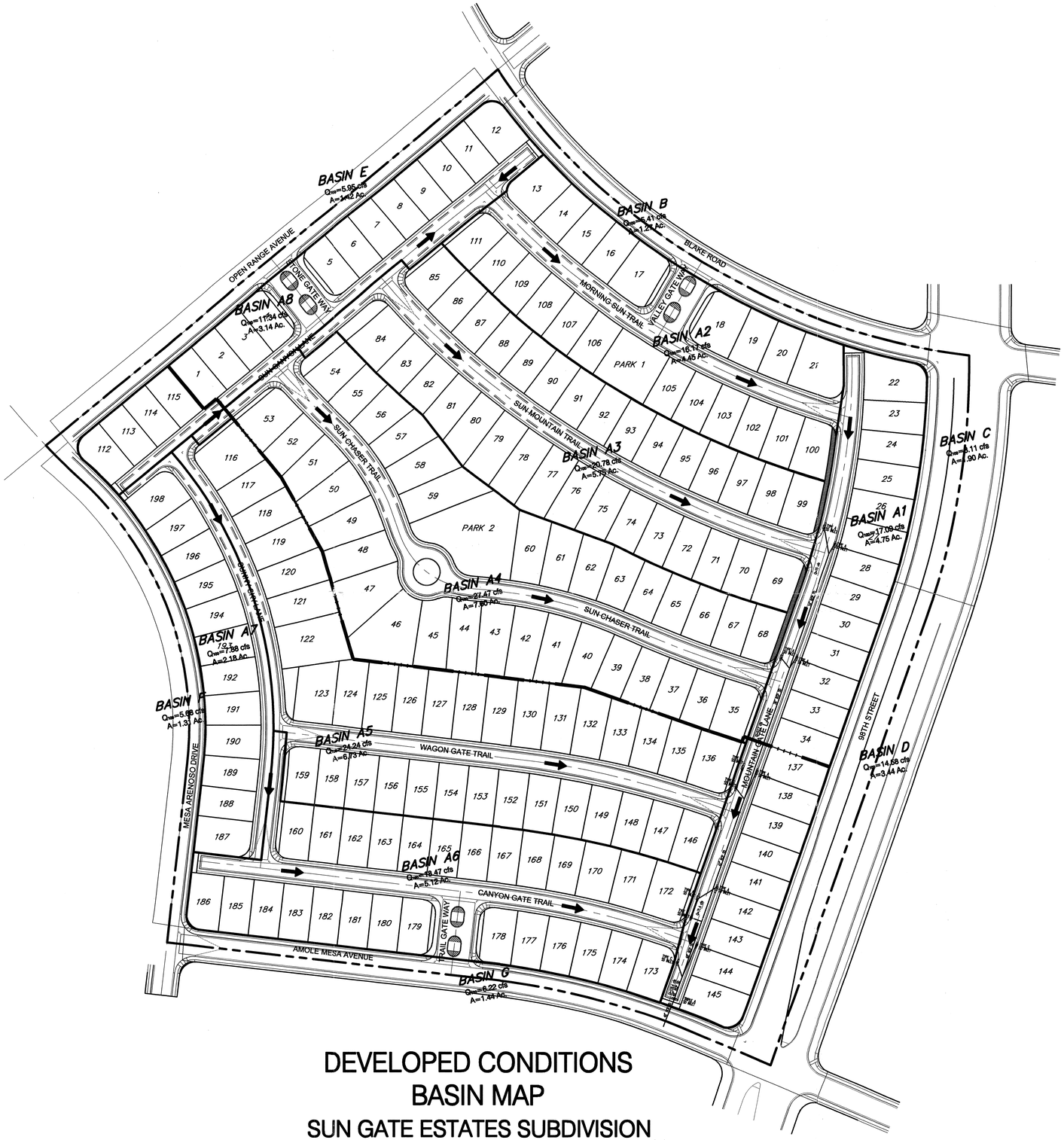
GRADING PLAN

Bohannan ▲ Huston INC.

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332



DEVELOPED CONDITIONS
BASIN MAP
SUN GATE ESTATES SUBDIVISION
SEPTEMBER, 2004

N

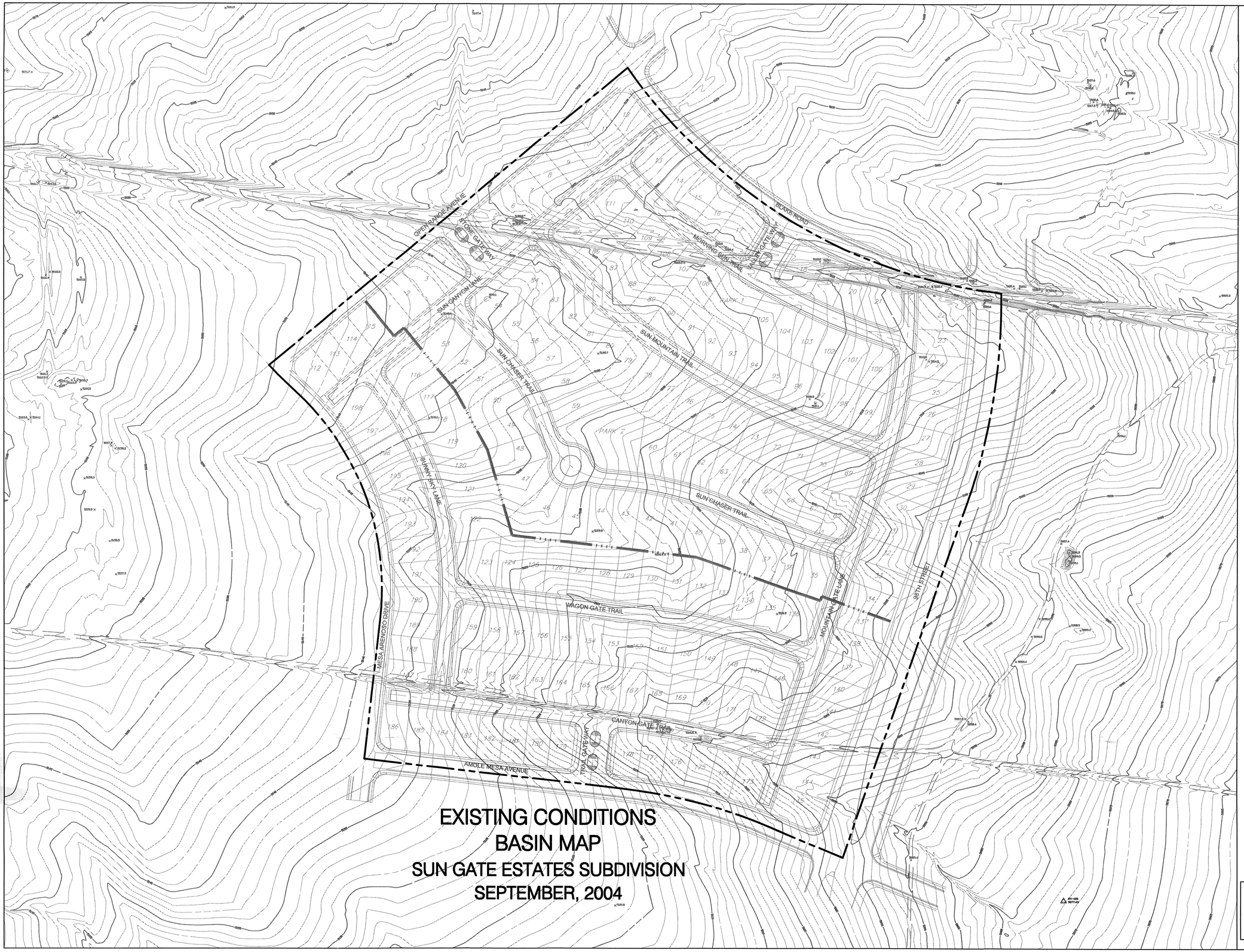
100 50 0 100

1"=100'

Bohannan ▲ Huston INC

Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335

ENGINEERING ▲ SPATIAL DATA ▲ ADVANCED TECHNOLOGIES



EXISTING CONDITIONS
BASIN MAP
SUN GATE ESTATES SUBDIVISION
SEPTEMBER, 2004

N

100 50 0 100

1"=100'

Bohannan ▲ Huston INC.

Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335

ENGINEERING ▲ SPATIAL DATA ▲ ADVANCED TECHNOLOGIES

GENERAL NOTES

1. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.

2. THE CONTRACTOR IS TO REFER TO EARTHWORK SPECIFICATION AS NOTED IN THE GEO-TECH REPORT FOR SALAZAR DAVIS PARCEL PREPARED BY VINYARDS ASSOC., NOVEMBER 6, 2003.

3. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE, AND FEDERAL DUST CONTROL MEASURES & REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.

4. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AS PER DETAIL, SHEET 3B, AND WETTING THE SOIL TO KEEP IT FROM BLOWING.

5. ALL SPOT ELEVATIONS ARE TO FLOWLINE UNLESS OTHERWISE NOTED.

6. BOULDERS GREATER THAN 3 FEET IN DIAMETER EXCAVATED DURING GRADING ACTIVITIES SHALL BE STOCKPILED AND DISPOSED OF AT THE DISCRETION OF THE OWNER.

7. ALL WALLS SHOWN ARE TO BE PLACED ALONG PROPERTY LINE. WALLS ARE SHOWN OFFSET FOR VISUAL PURPOSE ONLY.

8. WHEN SPECIFIED AS EITHER LEFT(LT) OR RIGHT(RT), THE DRIVEWAY SHALL BE LOCATED ON THAT SIDE OF THE LOT AS VIEWED FROM THE STREET LOOKING TOWARD THE LOT IN QUESTION.

9. LOTS 25–34 AND 137–145 WILL UTILIZE BACKYARD PONDING AS PER SECTION E-E, SHEET 5. TURN BLOCK WALL DRAINS IN THE BACKYARD WALLS FOR THESE LOTS SHALL NOT BE INSTALLED.

10. THE BACKYARDS ONLY ON LOTS 22–24 SHALL DRAIN INTO 98TH STREET.

100 50 0 100
1" = 100'

LEGEND

(91.62)	FUTURE SPOT ELEVATION
91.62	PROPOSED SPOT ELEVATION
× 92.46	EXISTING SPOT ELEVATION (GRND & TC)
	EXISTING CURB & GUTTER
	PROPOSED MOUNTABLE CURB & GUTTER
	PROPOSED STANDARD CURB & GUTTER
5470	EXISTING CONTOUR W/ INDEX ELEVATION
	FLOW ARROW
	PROPOSED RETAINING WALL
	PROPOSED GARDEN WALL, CONCRETE FILLED TO 1-FOOT DEPTH
	PROPOSED SLOPE
	PROPOSED STORM DRAIN
	PROPOSED STORM DRAIN MANHOLE
	PROPOSED STORM DRAIN INLET
	WALL DRAIN
P=5154.1 D/W RT	PAD ELEVATION WITH DRIVEWAY LOCATION SPECIFIED, SEE NOTE 8 ABOVE

2 DRAINAGE CERTIFICATION

I, CHRISTIAN J. SHOLTIS, NMPE 16244, OF THE FIRM BOHANNAN HUSTON, INC. HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED, SEPTEMBER 9, 2004. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY TIMOTHY ALDRICH, NMPS 7719, OF THE FIRM ALDRICH LAND SURVEYING. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON MAY 26, 2006, AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUMBITTED IN SUPPORT OF A REQUEST FOR SIA/ FINANCIAL GUARANTY RELEASE.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE ASPECTS OF THIS PROJECT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

Christian J. Sholtis
CHRISTIAN J. SHOLTIS, NMPE 16244

5-31-06
DATE

CHRISTIAN J. SHOLTIS NEW MEXICO 16244 LICENSED PROFESSIONAL ENGINEER

ROUGH GRADING (±0.5'):

APPROVED FOR ROUGH GRADING DATE

AS-BUILT INFORMATION

CONTRACTOR	DATE
WORK STAKED BY	DATE
INSPECTOR'S ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE

MICROFILM INFORMATION

RECORDED BY	DATE
NO.	

BENCH MARKS

ACS BRASS TABLET STAMPED "TRANS"
Geographic Position (NAD 1927)
N.M. State Plane Coordinates (Central Zone)
X= 354,899.45 Y= 1,471,822.67
Ground-to-Grid Factor=0.99967921(As Published)
$\Delta\alpha$ = −00°16'42"
SLD 1929 Elevation = 5118.43

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

CHRISTIAN J. SHOLTIS NEW MEXICO 16244 LICENSED PROFESSIONAL ENGINEER
9-9-04
12-7-04

No.	Date	REMARKS	By
2	5-31-06	DRAINAGE CERTIFICATION	CJS
1	12-7-04	MISC. MINOR REV.'S TO GRADING AND WALLS (SHEETS 2-4)	CJS

REVISIONS

DESIGN

Designed By: CJS DATE: 09/08/04
Drawn By: BJG DATE: 09/08/04
Checked By: CJS DATE: 09/08/04

Bohannan ▲ Huston INC.
Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335
ENGINEERING ▲ SPATIAL DATA ▲ ADVANCED TECHNOLOGIES

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

SUN GATE ESTATES
GRADING AND DRAINAGE PLAN
OVERALL SHEET LOCATION PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
736782	N-9-Z	1	5

DRAINAGE CERTIFICATION

I, CHRISTIAN J. SHOLTIS, NMPE 16244, OF THE FIRM BOHANNAN HUSTON, INC. HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED, SEPTEMBER 9, 2004. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY TIMOTHY ALDRICH, NMPS 7719, OF THE FIRM ALDRICH LAND SURVEYING. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON MAY 28, 2006, AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUMBITTED IN SUPPORT OF A REQUEST FOR SIA/ FINANCIAL GUARANTY RELEASE.

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CHRISTIAN J. SHOLTIS, NMPE 16244

5-31-06
DATE

CHRISTIAN J. SHOLTIS NEW MEXICO 16244 LICENSED PROFESSIONAL ENGINEER

GENERAL NOTES

1. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.

2. THE CONTRACTOR IS TO REFER TO EARTHWORK SPECIFICATION AS NOTED IN THE GEO-TECH REPORT FOR SALAZAR DAVIS PARCEL PREPARED BY VINYARDS ASSOC., NOVEMBER 6, 2003.

3. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE, AND FEDERAL DUST CONTROL MEASURES & REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.

4. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AS PER DETAIL, SHEET 3B, AND WETTING THE SOIL TO KEEP IT FROM BLOWING.

5. ALL SPOT ELEVATIONS ARE TO FLOWLINE UNLESS OTHERWISE NOTED.

6. BOULDERS GREATER THAN 3 FEET IN DIAMETER EXCAVATED DURING GRADING ACTIVITIES SHALL BE STOCKPILED AND DISPOSED OF AT THE DISCRETION OF THE OWNER.

7. ALL WALLS SHOWN ARE TO BE PLACED ALONG PROPERTY LINE. WALLS ARE SHOWN OFFSET FOR VISUAL PURPOSE ONLY.

8. WHEN SPECIFIED AS EITHER LEFT(LT) OR RIGHT(RT), THE DRIVEWAY SHALL BE LOCATED ON THAT SIDE OF THE LOT AS VIEWED FROM THE STREET LOOKING TOWARD THE LOT IN QUESTION.

9. LOTS 25-34 AND 137-145 WILL UTILIZE BACKYARD PONDING AS PER SECTION E-E, SHEET 5. TURN BLOCK WALL DRAINS IN THE BACKYARD WALLS FOR THESE LOTS SHALL NOT BE INSTALLED.

10. THE BACKYARDS ONLY ON LOTS 22-24 SHALL DRAIN INTO 98TH STREET.

N

50 25 0 50
1" = 50'

LEGEND

- (91.62) FUTURE SPOT ELEVATION
- 91.62 PROPOSED SPOT ELEVATION
- × 92.46 EXISTING SPOT ELEVATION (GRND & TC)
- EXISTING CURB & GUTTER
- PROPOSED MOUNTABLE CURB & GUTTER
- PROPOSED STANDARD CURB & GUTTER
- 5470 EXISTING CONTOUR W/ INDEX ELEVATION
- FLOW ARROW
- PROPOSED RETAINING WALL
- PROPOSED GARDEN WALL, CONCRETE FILLED TO 1-FOOT DEPTH
- PROPOSED SLOPE
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN INLET
- WALL DRAIN
- P=5154.1 D/W RT — PAD ELEVATION WITH DRIVEWAY LOCATION SPECIFIED, SEE NOTE 8 ABOVE

ROUGH GRADING	(±0.5').
APPROVED FOR ROUGH GRADING	DATE

Bohannan ▲ Huston INC.
Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335
ENGINEERING ▲ SPATIAL DATA ▲ ADVANCED TECHNOLOGIES

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

SUN GATE ESTATES
GRADING PLAN AND DRAINAGE PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
736782	N-9-Z	2	5

AS-BUILT INFORMATION
CONTRACTOR DATE
WORK INSPECTED BY DATE
ACCEPTANCE BY DATE
CERTIFICATION BY DATE
DRAWINGS REVIEWED BY DATE
MICROFILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
ACS BRASS TABLET STAMPED "TRANS"
Geographic Position (NAD 1927)
N.M. State Plane Coordinates (Central Zone)
X= 354,893.45 Y= 1,471,822.67
Ground-to-Grid Factor=0.999679214(As Published)
Δα = -00°16'42"
SLD 1929 Elevation = 5118.43

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
CHRISTIAN J. SHOLTIS NEW MEXICO 16244 REGISTERED PROFESSIONAL ENGINEER
9-9-04
12-7-04

No.	Date	By
1	5-31-06	DRAINAGE CERTIFICATION	CJS
		REMARKS	
		REVISIONS	
		DESIGN	

Designed By: CJS DATE: 09/08/04
Drawn By: BJG DATE: 09/08/04
Checked By: CJS DATE: 09/08/04

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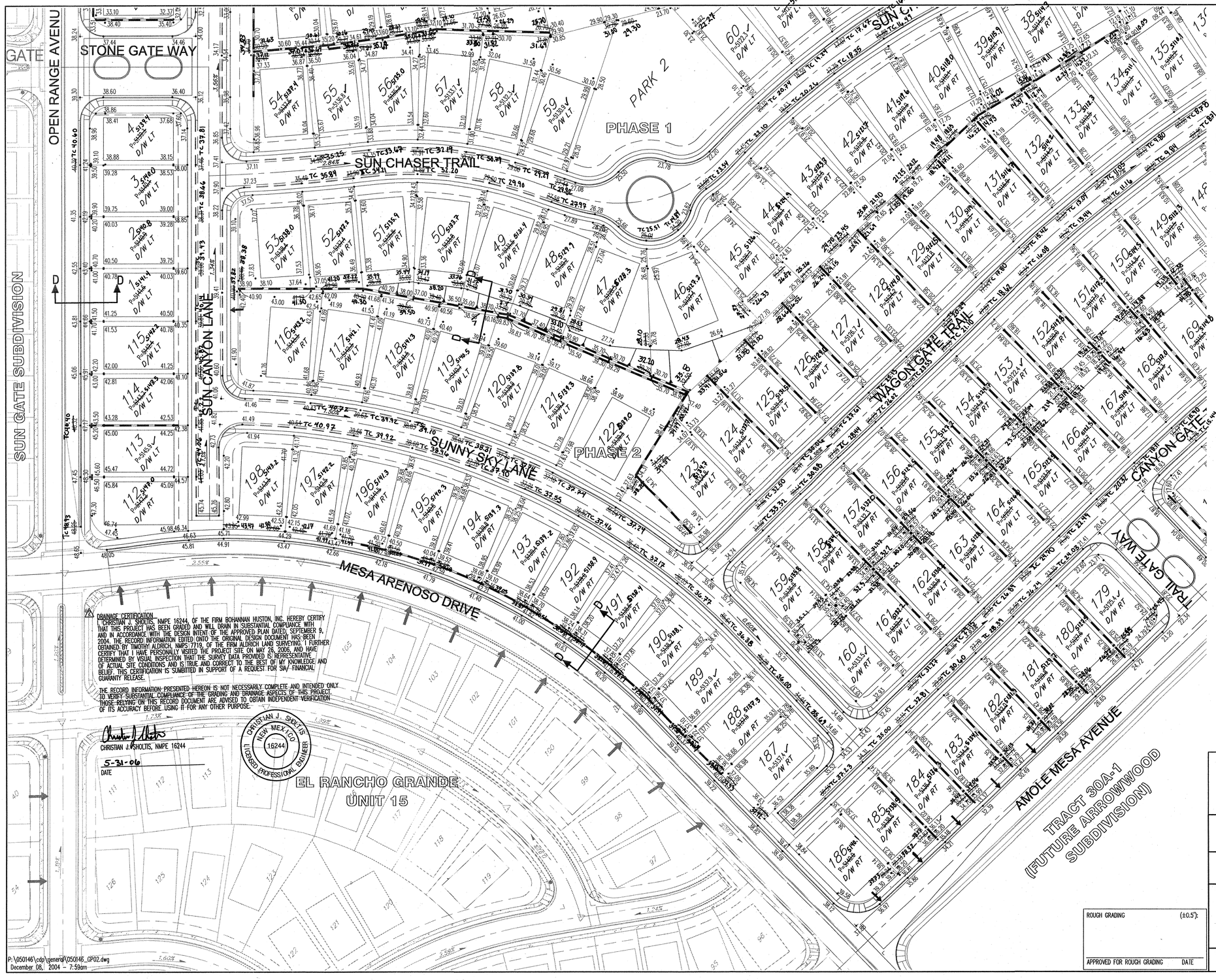
December 08, 2004 - 7:59am



GENERAL NOTES

1. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.

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10. THE BACKYARDS ONLY ON LOT [illegible] DRAIN INTO 98TH STREET.

50 25 0 50
1" = 50'

LEGEND

(91.62)	FUTURE SPOT ELEVATION
91.62	PROPOSED SPOT ELEVATION
92.46	EXISTING SPOT ELEVATION (GRND & TC)
	EXISTING CURB & GUTTER
	PROPOSED MOUNTABLE CURB & GUTTER
	PROPOSED STANDARD CURB & GUTTER
5470	EXISTING CONTOUR W/ INDEX ELEVATION
	FLOW ARROW
	PROPOSED RETAINING WALL
	PROPOSED GARDEN WALL, CONCRETE FILLED TO 1-FOOT DEPTH
	PROPOSED SLOPE
	PROPOSED STORM DRAIN
	PROPOSED STORM DRAIN MANHOLE
	PROPOSED STORM DRAIN INLET
	WALL DRAIN
P=5154.1 D/W RT	PAD ELEVATION WITH DRIVEWAY LOCATION SPECIFIED, SEE NOTE 8 ABOVE

DRAINAGE CERTIFICATION

I, CHRISTIAN J. SHOLTIS, NMPE 16244, OF THE FIRM BOHANNAN HUSTON, INC. HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED: SEPTEMBER 9, 2004. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY TIMOTHY ALDRICH, NMPS 7719, OF THE FIRM ALDRICH LAND SURVEYING. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON MAY 26, 2006, AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR SIA/ FINANCIAL GUARANTY RELEASE.

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CHRISTIAN J. SHOLTIS, NMPE 16244

5-31-06
DATE

CHRISTIAN J. SHOLTIS NEW MEXICO 16244 LICENSED PROFESSIONAL ENGINEER

ROUGH GRADING (±0.5'):

APPROVED FOR ROUGH GRADING DATE

Bohannan ▲ Huston INC.
Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335
ENGINEERING ▲ SPATIAL DATA ▲ ADVANCED TECHNOLOGIES

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

SUN GATE ESTATES
GRADING AND DRAINAGE PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
736782	N-9-Z	3	5

AS-BUILT INFORMATION
CONTRACTOR DATE
WORK STAKED BY DATE
CONSTRUCTION ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE
MICROFILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
ACS BRASS TABLET STAMPED "TRANS"
Geographic Position (NAD 1927)
N.M. State Plane Coordinates (Central Zone)
X= 354,899.45 Y= 1,471,822.67
Ground-to-Grid Factor=0.99967921(As Published)
$\Delta\alpha$ = -00°16'42"
SLD 1929 Elevation = 5118.43

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL
CHRISTIAN J. SHOLTIS NEW MEXICO 16244 REGISTERED PROFESSIONAL ENGINEER
9-9-04
12-7-04

No.	Date	REVISIONS	By
1	5-31-06	DRAINAGE CERTIFICATION	CJS
		REMARKS	
		DESIGN	
Designed By: CJS		DATE: 09/08/04	
Drawn By: BJG		DATE: 09/08/04	
Checked By: CJS		DATE: 09/08/04	

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December 08, 2004 - 7:59am

GENERAL NOTES

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N

50 25 0 50
1" = 50'

LEGEND

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	WALL DRAIN
P=5154.1 D/W RT	PAD ELEVATION WITH DRIVEWAY LOCATION SPECIFIED, SEE NOTE 8 ABOVE

TRACT 12-A-1

TRACT 30A-1
(FUTURE ARROWWOOD SUBDIVISION)

DRAINAGE CERTIFICATION

I CHRISTIAN J. SHOLTIS, NMPE 16244, OF THE FIRM BOHANNAN HUSTON, INC. HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED, SEPTEMBER 9, 2004. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY TIMOTHY ALDRICH, NMPS 7719, OF THE FIRM ALDRICH LAND SURVEYING. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON MAY 26, 2006, AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUMBITTED IN SUPPORT OF A REQUEST FOR SIA/ FINANCIAL GUARANTY RELEASE.

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CHRISTIAN J. SHOLTIS, NMPE 16244

5-31-06
DATE

CHRISTIAN J. SHOLTIS NEW MEXICO 16244 LICENSED PROFESSIONAL ENGINEER

ROUGH GRADING	(±0.5'):
APPROVED FOR ROUGH GRADING	DATE

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

BENCH MARKS

ACS BRASS TABLET STAMPED "TRANS"
Geographic Position (NAD 1927)
N.M. State Plane Coordinates (Central Zone)
X= 354,899.45 Y= 1,471,822.67
Ground-to-Grid Factor=0.99967921(As Published)
ΔΔ = -00°16'42"
SLD 1929 Elevation = 5118.43

AS-BUILT INFORMATION

CONTRACTOR DATE
WORK PERFORMED BY
INSPECTOR'S ACCEPTANCE BY DATE
CERTIFICATION BY DATE
DRAWINGS PREPARED BY DATE

MICROFILM INFORMATION

RECORDED BY DATE
NO.

ENGINEER'S SEAL

CHRISTIAN J. SHOLTIS NEW MEXICO 16244 REGISTERED PROFESSIONAL ENGINEER
9-9-04
12-7-04

No.	Date	REMARKS / REVISIONS / DESIGN	By
1	5-31-06	DRAINAGE CERTIFICATION	CJS

DATE: 09/08/04
DATE: 09/08/04
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Designed By: CJS
Drawn By: BJG
Checked By: CJS

Bohannan ▲ Huston INC.
Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335
ENGINEERING ▲ SPATIAL DATA ▲ ADVANCED TECHNOLOGIES

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

SUN GATE ESTATES
GRADING AND DRAINAGE PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
736782	N-9-Z	4	5

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December 08, 2004 - 7:59am