CITY OF ALBUQUERQUE

THREE HUNDRED YEARS
1706 * 2006
ALBUQUERQUE
Making History

August 16, 2004

Ms. Diane Hoelzer, PE
MARK GOODWIN & ASSOCIATES
P.O. Box 90606
Albuquerque, NM 87119

RE: ESCONDIDO @ VISTA DEL NORTE (D16/D013)
Engineers Certification for Release of Financial Guaranty
Engineers Stamp dated 08/26/2002
Engineers Certification dated 08/13/2004

Dear Diane:

Based upon the information provided in your Engineer's Certification Submittal dated 08/16/2004, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty.

If you have any questions, you can contact me at 924-3982

Sincerely,

Arlene V. Portillo

Arlene V. Portillo
Plan Checker, Planning Dept.- Hydrology
Development and Building Services
BB

C: Marilyn Maldonado, COA# 696581
File

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE INFORMATION SHEET
(REV. 1/28/2003rd)

D-16/D13

PROJECT TITLE: Escondido @ Vista del Norte — ZONE MAP/DRG #: D16 / D30

DRB#: 1001931 — EPC #: — W.O.#: 696581

LEGAL DESCRIPTION: Escondido @ Vista del Norte

CITY ADDRESS:

ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	
ADDRESS:	PO Box 90606	PHONE:	828-2200
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87199
OWNER:	KB Homes of New Mexico Inc.	CONTACT:	Larry Erwin
ADDRESS:	4921 Alexander NE Ste. B	PHONE:	344-9400
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87107
ARCHITECT:	none	CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	Aldrich Land Surveying	CONTACT:	Tim Aldirch
ADDRESS:	P.O. Box 30701	PHONE:	884-1990
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87190-0701
CONTRACTOR:	Sundance Mechanical	CONTACT:	Carlos Spies
ADDRESS:	4400 Alameda NE, Ste E	PHONE:	345-2694
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87113

CHECK TYPE OF SUBMITTAL:

- ___ DRAINAGE REPORT
- ___ DRAINAGE PLAN 1ST SUBMITTAL, **req. TCL or equal**
- ___ DRAINAGE PLAN RESUBMITTAL
- ___ CONCEPTUAL GRADING & DRAINAGE PLAN
- ___ GRADING PLAN
- ___ EROSION CONTROL PLAN
- X ENGINEER'S CERTIFICATION (HYDROLOGY)
- ___ CLOMR/LOMR
- ___ TRAFFIC CIRCULATION LAYOUT (TCL)
- ___ ENGINEER'S CERTIFICATION (TCL)
- ___ ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)
- ___ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- X SIA / FINANCIAL GUARANTEE RELEASE
- ___ PRELIMINARY PLAT APPROVAL
- ___ S. DEV. PLAN FOR SUB'D. APPROVAL
- ___ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ___ SECTOR PLAN APPROVAL
- ___ FINAL PLAT APPROVAL
- ___ FOUNDATION PERMIT APPROVAL
- ___ BUILDING PERMIT APPROVAL
- ___ CERTIFICATE OF OCCUPANCY (PERM)
- ___ CERTIFICATE OF OCCUPANCY (TEMP)
- ___ GRADING PERMIT APPROVAL
- ___ PAVING PERMIT APPROVAL
- ___ WORK ORDER APPROVAL
- ___ OTHER (specify)

WAS A PRE-DESIGN CONFERENCE ATTENDED?

- ___ YES
- X NO
- ___ COPY PROVIDED

RECEIVED
AUG 16 2004
HYDROLOGY SECTION

DATE SUBMITTED: August 16, 2004 — BY: COPY

Diane Hoelzer, PE

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

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

September 3, 2002

Diane Hoelzer, PE
Mark Goodwin & Associates
P.O. 90606
Albuquerque, NM 87199

Re: Escondido @ Vista del Norte Subdivision Drainage Report
Engineer's Stamp dated 8-26-02 (D16/D13)

Dear Ms. Hoelzer,

Based upon the information provided in your resubmittal dated 8-28-02, the above referenced report is approved for Preliminary Plat action by the DRB.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham

Bradley L. Bingham, PE
Sr. Engineer, PWD
Development and Building Services

C: file

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV.1/11/2002)

D13

PROJECT TITLE: Escondido @ Vista del Norte ZONE ATLAS#: D16 / ~~D-30E~~

DRB#: 1001931 EPC# _____ WORKORDER#: _____

LEGAL DESCRIPTION: Tract T-1, Vista del Norte

CITY ADDRESS:

ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	Diane Hoelzer, PE
ADDRESS:	PO Box 90606, ABQ, NM 87199	PHONE:	828-2200
OWNER:	KB Homes of New Mexico, Inc.	CONTACT:	Jeff Dowart
ADDRESS:	4921 Alexander NE, Ste B ABQ, NM 87107	PHONE:	9344-9400
ARCHITECT:		CONTACT:	
ADDRESS:		PHONE:	
SURVEYOR:	Aldrich Land Surveying	CONTACT:	Tim Aldrich
ADDRESS:	4109 Montgomery NE, ABQ, NM 87107	PHONE:	884-1990
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	

TYPE OF SUBMITTAL:

- ____ DRAINAGE REPORT
- ____ DRAINAGE PLAN
- ____ CONCEPTUAL GRADING & DRAINAGE PLAN
- X GRADING PLAN - Revised 8-26-02
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ____ CLOMR/LOMR
- ____ TRAFFIC CIRCULATION LAYOUT (TCL)
- ____ ENGINEER'S CERTIFICATION (TCL)
- ____ ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)
- ____ OTHER

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ____ YES
- ____ NO
- ____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- ____ SIA / FINANCIAL GUARANTY RELEASE
- X PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D APPROVAL
- ____ S. DEV. PLAN FOR BLDG PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ____ FINAL PLAT APPROVAL
- ____ FOUNDATION PERMIT APPROVAL
- ____ BUILDING PERMIT APPROVAL
- ____ CERTIFICATE OF OCCUPANCY (PERM)
- ____ CERTIFICATE OF OCCUPANCY (TEMP)
- X GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ WORK ORDER APPROVAL
- ____ OTHER (SPECIFY)

RECEIVED AUG 2 8 2002 HYDROLOGY SECTION

DATE SUBMITTED: August 28, 2002

BY: Diane Hoelzer

Diane Hoelzer, PE

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of to the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5).
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5).
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

f:\\forms\drainnf tbl

D. Mark Goodwin and Associates, P.A.
Consulting Engineers

P.O. Box 90606 ❖ Albuquerque, NM 87199
(505) 828-2200 ❖ (505) 797-9539 fax
e-mail: dmg@swcp.com

RECEIVED
AUG 2 8 2002
HYDROLOGY SECTION

LETTER OF TRANSMITTAL

TO: **Brad Bingham**
One Stop
Plaza del Sol

DATE: August 28, 2002

RE: Escondido @ Vista del Norte
DRB 1001931

We are sending:

Copies	Date	Description
1		Drainage Info. Sheet
1	8-26-02	G&D Plan

_X_ For your approval

____ As you requested ____ For your review and comments

NOTES: ***Brad, I got AMAFCA's signature with a few changes on the G&D plan, I deleted the Typical Section A-A in the lower left hand corner of the plan and made minor corrections to the detail A-A. This is all that changed. Call me if you have any questions.***

Project Engineer: Diane Hoelzer

Diane Hoelzer, PE

Drainage Report

for

ESCONDIDO SUBDIVISION

@ Vista del Norte

DIANE HOELZER
NEW MEXICO
11967
REGISTERED PROFESSIONAL ENGINEER

7-19-02

Mark Goodwin & Associates, PA

July 2002

DLH

RECEIVED
JUL 19 2002
HYDROLOGY SECTION

I. PROJECT DESCRIPTION

This project site is identified as Tract T-1 on the Vista del Norte Plat. The site is located north of the developing Bernardo Trails subdivision, east of the proposed Las Lomitas Drive, west of the AMAFCA North Diversion channel. The tract of land is proposed to be developed into a 74 lot residential subdivision. Adjacent to the north property boundary is vacant land and the east half of the north property line is partially encumbered by a 25 foot slope.

II. DRAINAGE DESIGN CRITERIA AND PREVIOUS REPORTS

The design criteria used in this report was in accordance with Section 22.2 Hydrology of the Development Process Manual, Volume 2, Design Criteria, January 1993 edition. The 100-year 6-hour storm event was analyzed to determine street capacities using P(1 hr) = 2.00", P(6 hr)=2.30". The onsite Land Treatment values were determined using "Table A-5 Percent Treatment D" in the DPM. AHYMO printouts are provided in Appendix A.

III. EXISTING DRAINAGE CONDITIONS

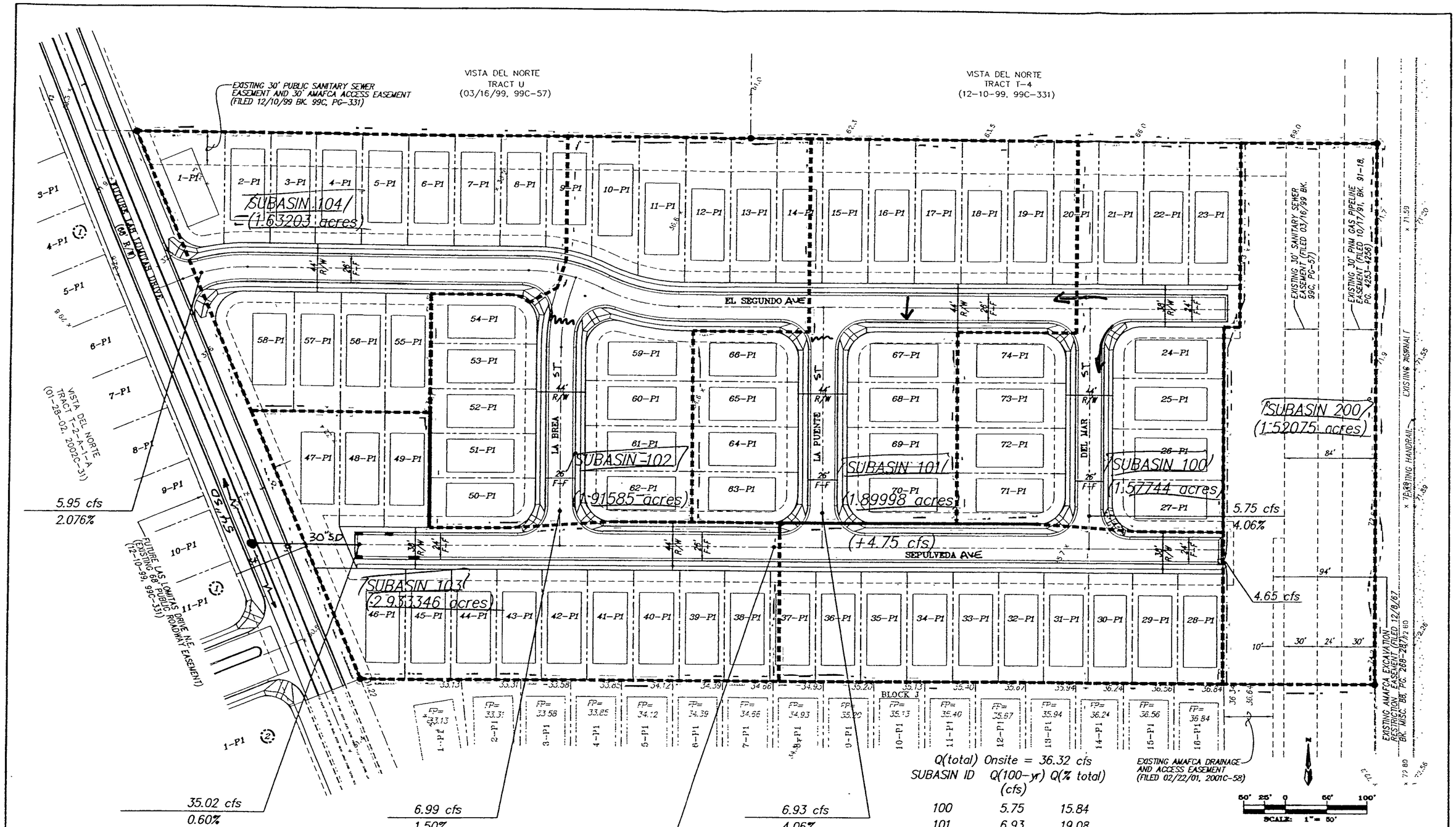
This site was rough graded as part of the approved master grading plan for Vista del Norte Unit 1 several years ago. The site is relatively flat with a gentle fall towards the west. Immediately east of the property is a 35' high embankment constructed with 3:1 side slopes as part of the AMAFCA North Diversion channel. The east half of the north property line is partially encumbered by a 25' high embankment at side slope of 3:1.

IV. DEVELOPED DRAINAGE CONDITIONS

This project site is part of the Vista del Norte Master Drainage Plan for the North Detention Pond. All of the runoff from this site will discharge into the storm sewer in Las Lomitas Drive. The construction plans for all the infrastructure in Las Lomitas Drive which includes storm sewer, water, sanitary sewer stubs to this site, curb and gutter, paving and sidewalk are presently at the City awaiting final sign-off and approval for work order. Most of the runoff (35.0 cfs) from this site will be intercepted by inlets located at the west end of Sepulveda Avenue. A small amount of runoff (5.95 cfs) will be allowed to free discharge into Las Lomitas Drive where it will be conveyed east to two sump inlets located in Las Lomitas Drive adjacent to the North Pond. Each of the sump inlets will intercept a total of 12.7 cfs. Runoff from the AMAFCA North Diversion channel slope will be conveyed in a swale along the east property line and then discharged into Sepulveda Avenue through a 4.5' wide sidewalk culvert through the perimeter garden wall. A 15' wide maintenance road for AMAFCA will be graded east of the east property line as shown on the G&D plan. AMAFCA will have vehicular access at the east end of El Segundo Avenue as shown on the G&D plan.

For a summary of hydrology on the Master Drainage Plan for Vista del Norte North Detention Pond refer to Table 1 and the Overview drawing in Pocket 2. A schematic of the onsite subasin boundaries and the associated peak discharge values can be found in Figure 2.

For a summary of the storm sewer in Las Lomitas Drive and within the project site, refer to Appendix C for storm sewer analysis and schematic of the storm sewer layout.



Q(total) Onsite = 36.32 cfs

SUBASIN ID	Q(100-yr) (cfs)	Q(% total)
100	5.75	15.84
101	6.93	19.08
102	6.99	19.24
103	10.70	29.45
104	5.95	16.39
200	4.65	
TOTAL	40.97 cfs	

F:\A02jobs\A2055kb\SUBASIN_EXHIBIT.dwg\07-13-02\DLH

MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200, FAX (505) 797-9539

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

FIGURE 2

TITLE: SUBASIN BOUNDARY EXHIBIT

VISTA DEL NORTE

To North Pond

TABLE 1: SUMMARY OF HYDROLOGY

SUBASIN ID	AREA (acres)	# Lots	N value	Land Treat. D	Land Treat.B/C	Q(100) cfs	Runoff Volume (Ac.Ft.)
TRACT D Units 4A,4B,5A,5B							
D1	4.18410	22	5.3	51	24.5	15.24	0.578
D2	4.51190	26	5.8	55	22.5	16.78	0.645
D3	1.84279	8	4.3	45	27.5	6.50	0.241
D4	2.48945	11	4.4	45	27.5	8.78	0.326
D5	4.48173	24	5.4	52	24.0	16.41	0.624
D6	4.69405	26	5.5	53	23.5	17.27	0.659
D7	5.74969	33	5.7	55	22.5	21.38	0.822
D8	1.26515	5	4.0	42	29.0	4.40	0.161
D9	7.23163	37	5.1	50	25.0	26.18	0.990
D10	2.12068	10	4.7	47	26.5	7.56	0.283
D11	2.94873	15	5.1	50	25.0	10.68	0.404
D12	2.07038	10	4.8	48	26.0	7.43	0.278
D13	3.10615	16	5.2	51	24.5	11.31	0.429
D14	2.68927	12	4.5	45	27.5	9.48	0.352
D15	1.35818	5	3.7	40	30.0	4.67	0.169
D16	1.39937	8	5.7	55	22.5	5.21	0.200
V3	2.14105	0		80	20.0	9.19	0.377
E2.1	4.45707	17	3.8	41	29.5	15.36	0.561
V2	1.68459	0		80	20.0	7.24	0.297
V1	3.25785	0		78	22.0	13.88	0.567
E1.2	9.60630	45	4.7	47	26.5	34.02	1.273
E2.3	9.55345	43	4.5	46	27.0	37.33	1.392
Bernardo Trails BT1	4.46080	26		60	40/0	16.27	0.641
Bernardo Trails BT2	6.65600	44		60	40/0	24.27	0.956
Bernardo Trails BT3	13.68320	92		60	40/0	49.87	1.966
AMAFCA slope BT4A	1.16992			0	0/100	3.59	0.108
AMAFCA slope BT5A	3.57760			0	0/100	10.98	0.329
AMAFCA slope BT6A	2.09380			0	0/100	6.42	0.193
TRACT N	5.05000			90	10.0	22.01	0.929
TRACT T-1	9.96480	74	7.4	60	40/0	36.32	1.432
TRACT T-1A	1.51400			0	0/100	4.65	0.139

TRACT T-4-A	22.66460			90	10.0	46.52	4.169
TRACT U-1	3.43270			0	0/100	10.53	0.316
TRACT U-2	3.92930			90	10.0	17.13	0.723
TRACT U-3	2.15080			90	10.0	9.38	0.396
TRACT U-4	0.49860			90	10.0	2.19	0.092
TRACT U-5	2.93510			90	10.0	12.80	0.540
TRACT U-6	23.44330			90	10.0	52.00	4.312
* LL	4.73000			80	0/20.4	19.45	0.804
SUB TOTAL	**194.79808**	**609**				**650.68**	**29.673**

7-12-02 f: \escondido\hydr_t1

* LL = Las Lomitas runoff to sump inlets #1 (31+10.) + #2 (31+10.)

Total Q in sump inlets = 25.4 cfs (12.7 cfs each)

19.45 cfs Las Lomitas Drive
5.95 cfs (Escondido @ El Segunda Ave)
25.40 cfs

See Appendix C for Las Lomitas Storm Sewer Schematic.

ESCONDIDO @ Vista del Norte

TABLE 2: SUMMARY OF STREET CAPACITIES

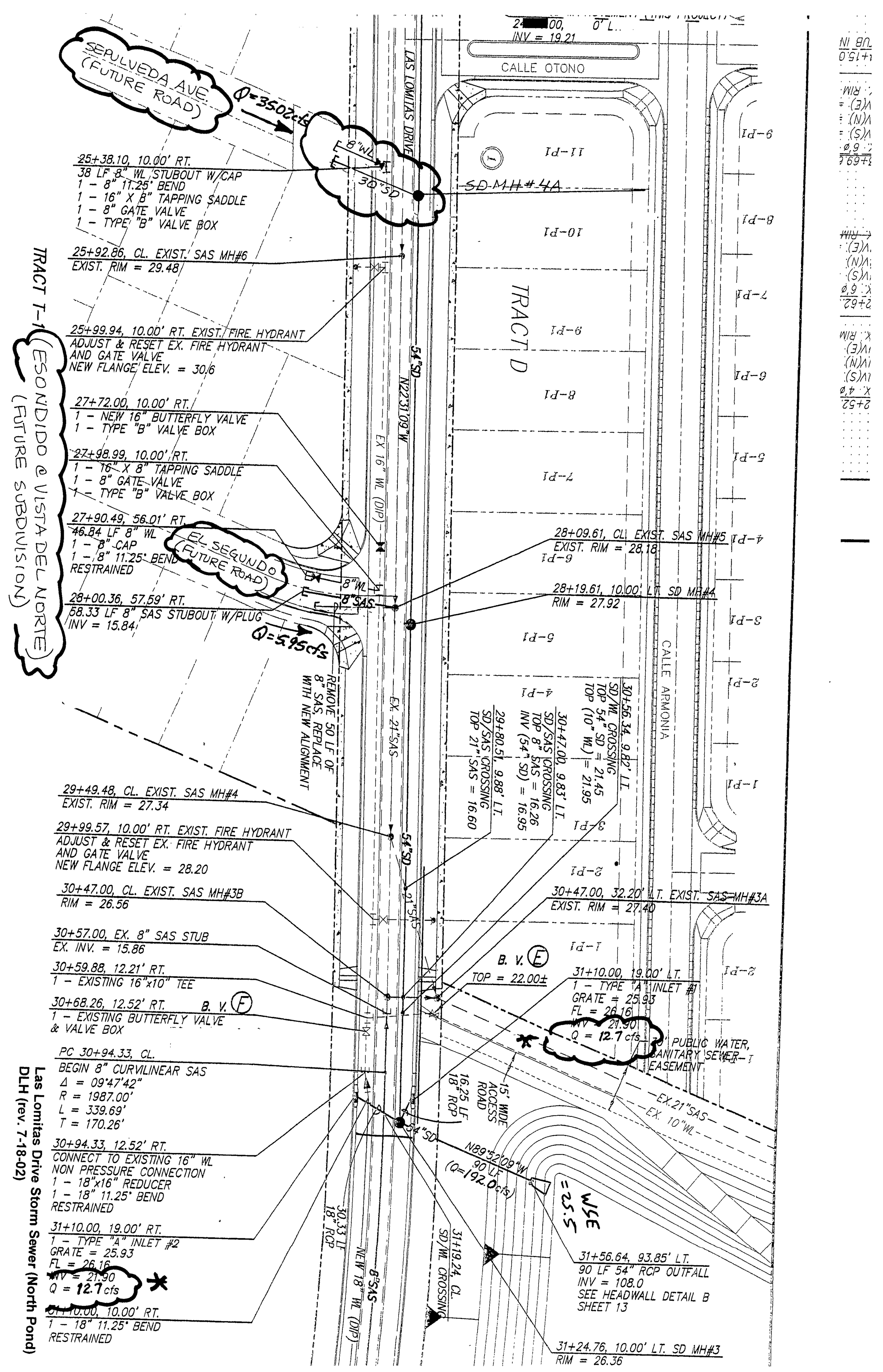
LOCATION	CURB	CROWN	WIDTH ft.	SLOPE %	Q cfs	DEPTH ft	EG ft.
EL SEGUNDO	MTB	Y	26	2.076	5.95	0.24	0.35
DEL MAR	MTB	Y	26	4.060	5.75	0.21	0.40
LA PUENTA	MTB	Y	26	4.060	6.93	0.22	0.43
LA BREA	MTB	Y	26	1.500	6.99	0.26	0.36
SEPULVEDA	MTB	Y	26	0.600	9.50	0.33	0.40
SEPULVEDA	STD	Y	26	0.600	35.02	0.59	0.76
SEPULVEDA	STD	Y	26	0.600	22.08	0.50	0.62

MTB = Mountable Curb
STD = Standard Curb

f:\Escondido\str_cap.wpd
7-17-02

```
START                TIME=0.0
*****    ESCONDIDO at VISTA DEL NORTE
*****    TRACT T-1
*****    100-YEAR 6-HOUR STORM EVENT
*****    FILE: ESCON_T1.DAT  JULY 2002 BY:DLH
RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN
                     RAIN ONE=2.00 IN RAIN SIX=2.30 IN
                     RAIN DAY=2.60 IN DT=0.05 HR
*****
*****
***** SUBASIN 100 (9.964 ACRES) PROJECT SITE
*****
COMPUTE NM HYD       ID=1 HYD NO=100. AREA=0.015568 SQ MI
                     PER A=0 PER B=40 PER C=0 PER D=60
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
*****
***** SUBASIN 101 (1.514 ACRES) AMAFCA SLOPE
*****
COMPUTE NM HYD       ID=2 HYD NO=101.OFF AREA=0.002365 SQ MI
                     PER A=0 PER B=0 PER C=100 PER D=0
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
FINISH
    AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994          RUN DATE (MON/DAY/YR) =07/13/2002
    INPUT FILE = Escon.dat                                                                      USER NO.= M_GOODWN.I01
```

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	PAGE = 1 NOTATION
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.300
COMPUTE NM HYD	100.00	-	1	.01557	36.32	1.282	1.54434	1.500	3.645	PER IMP= 60.00
COMPUTE NM HYD	101.OFF	-	2	.00237	4.65	.139	1.10462	1.500	3.071	PER IMP= .00
FINISH										

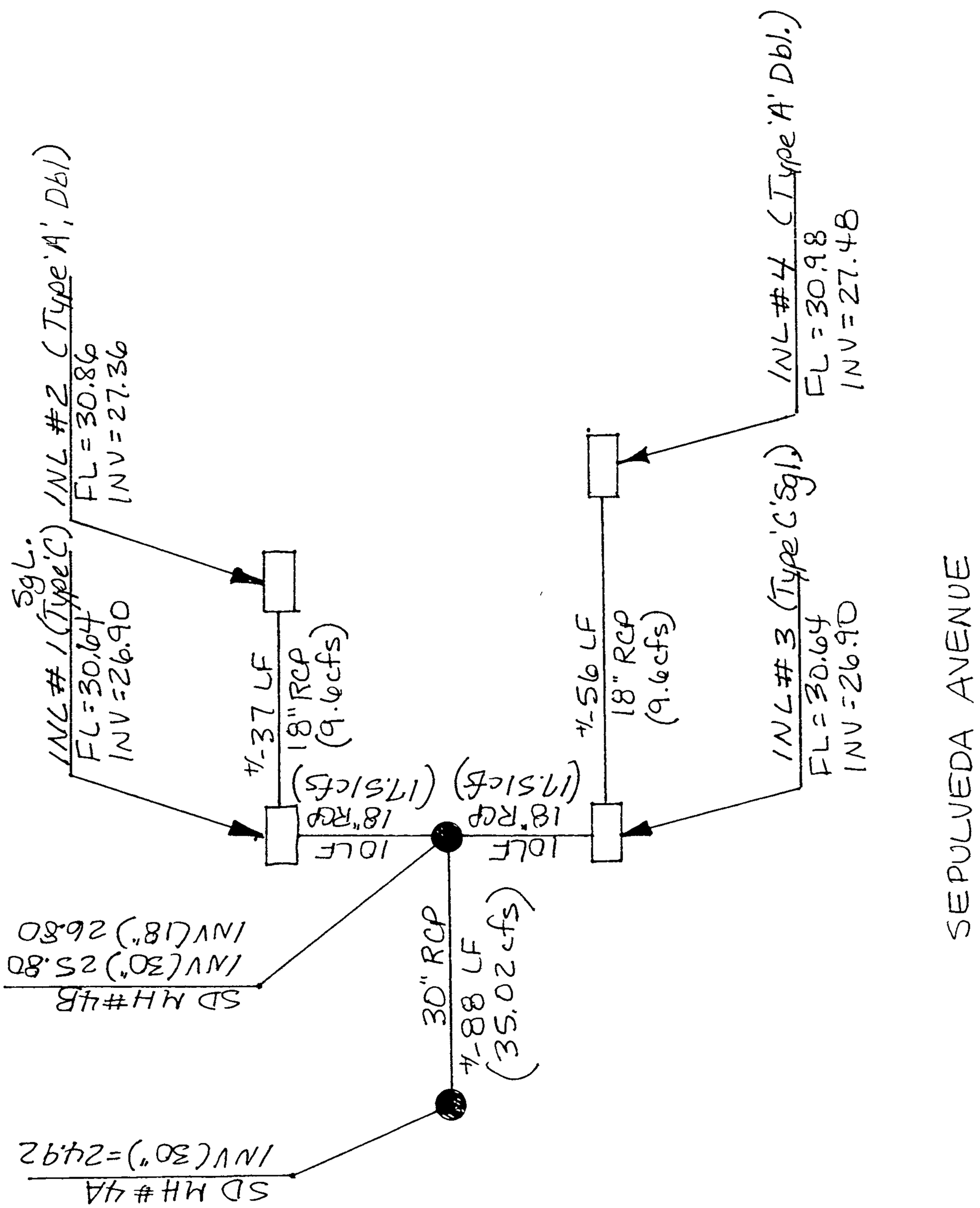


Las Lomitas Drive Storm Sewer (North Pond)
DLH (rev. 7-18-02)

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

PROJECT Escondido @ VdN
SUBJECT Storm Sewer Schematic
BY DLH DATE 7-17-02
CHECKED _____ DATE _____
SHEET ____ OF ____

PRELIMINARY



CALCULATIONS FOR SUMP INLETS
for
Escondido @ Vista del Norte

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right of way elevation. The length of the single grate facing the street is 3.0' and the maximum depth is 0.725' at the lip of the gutter. The sides are each 2' long and the average depth is 0.892'. These depths assume an 8" curb with right of way 9' behind the curb for an additional depth of 0.18' above the top of curb. From the weir equation:

Sepulveda sump inlets:

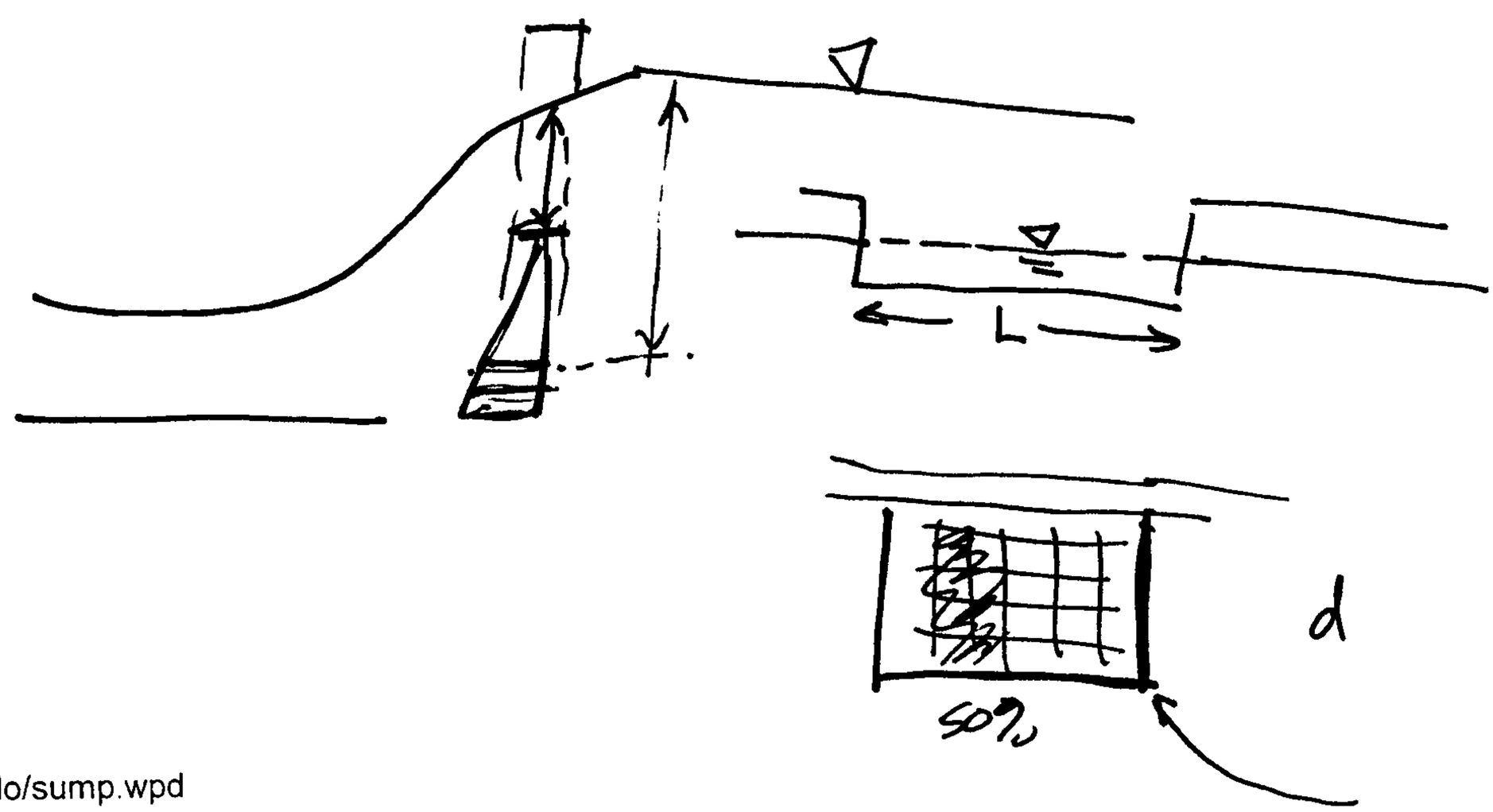
FOR SINGLE 'C' INLET

*Front Q cap = (3.0) x (3.0') x (0.725) **1.5 = 5.56 cfs*

*Sides Q cap = (3.0) x (4.0') x (0.892) **1.5 = 10.11 cfs*

Total Q cap = 5.56 cfs + 10.11 cfs = 15.67 cfs

The 100 year peak discharge at the Sepulveda stub road is 35.02 cfs. A total of 19.2 cfs will be intercepted by two double 'C' inlets leaving a remaining 15.82 cfs to be intercepted by two sump inlets. Since no overflow will be provided, the sump inlets are designed for 2 times the flow rate of 31.64 cfs.



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