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

PROJECT TITLE: Ceja Vista (Units 1, 2 & 3)
DRB #: 1004428 EPC#:_____

ZONE MAP/DRG. FILE #: P-9/D2D
WORK ORDER#:_____

LEGAL DESCRIPTION: _____
CITY ADDRESS:_____

ENGINEERING FIRM: Mark Goodwin & Associates, PA
ADDRESS: PO Box 90606
CITY, STATE: Albuquerque, NM

CONTACT: Scott Medina
PHONE: 828-2200
ZIP CODE: 87199

OWNER: Albuquerque Rio Bravo Partners, LLC
ADDRESS: 6330 Riverside Plaza Lane, NW, Ste 220
CITY, STATE: Albuquerque, NM

CONTACT: Bill Allen
PHONE: 440-7262
ZIP CODE: 87120

ARCHITECT: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE:
ZIP CODE: _____

SURVEYOR: ____
ADDRESS: _____
CITY, STATE: Albuquerque, NM

CONTACT: _____
PHONE: _____
ZIP CODE: 87107

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

- ☒ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ☒ DRAINAGE PLAN RESUBMITTAL
- ☒ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☒ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ 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
- ☒ NO
- ☐ COPY PROVIDED

RECEIVED
JAN 11 2007
HYDROLOGY SECTION

DATE SUBMITTED: 1/11/2006

BY: Scott Medina

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot 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.

MARK GOODWIN & ASSOCIATES, PA

LETTER OF TRANSMITTAL

TO: Brad Bingham
City Engineer

ONE STOP

DATE: January 11, 2007

RE: **Ceja Vista**

ITEMS BEING TRANSMITTED

1	Copy of Grading and Drainage for Units 1 – 3
1	Copy of Infrastructure List
1	Copy of Drainage Report
1	Copy of Plat

☐ FOR YOUR USE ☐ FOR YOUR RECORDS

☐ AS REQUESTED ☐ FOR YOUR COMMENTS

Notes:

PROJECT ENGINEER:
Scott Medina, PE

Lisa Anglada

P.O. Box 90606 ♦ Albuquerque, NM 87199 ♦ (505) 828-2200 ♦ (505) 797-9539 fax
www.goodwinengineers.com

DRAINAGE REPORT

For

CEJA VISTA SUBDIVISION

Prepared for
Albuquerque Rio Bravo Partners, LLC
6330 Riverside Plaza Lane NW, Suite 220
Albuquerque, NM 87120

Prepared by

Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199
(505) 828-2200

January 9, 2007

APPENDIX G

STORM DRAIN SIZE CALCULATIONS

Basin	Qp	Pipe Size	Slope
Unit 3			
Outfall	88 cfs	42"	1.00%
Moquino/Ceja Vista	14 cfs	24"	2.50%
Unit 2			
Comm. 2	43 cfs	30"	2.00%
Ceja Vista Outfall	165 cfs	48"	1.00%
Unit 1			
Lunaria Outfall	99 cfs	48"	0.50%
Lunaria/Meade	45 cfs	36"	0.50%
Hubbel Outfall	59 cfs	30"	2.00%

Manning's Equation

Pipe Size	S=0.5%	S=0.75%	S=1.0%	S=1.25%	S=1.5%	S=1.75%	S=2.0%
18	7.92	9.70	11.20	12.52	13.71	14.81	15.83
24	17.05	20.88	24.11	26.96	29.53	31.90	34.10
30	30.91	37.86	43.72	48.88	53.54	57.83	61.82
36	50.27	61.56	71.09	79.48	87.06	94.04	100.53
42	75.82	92.86	107.23	119.89	131.33	141.85	151.65
48	108.25	132.58	153.09	171.16	187.50	202.53	216.51

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Ceja Vista Unit 3 ZONE MAP/DRG. FILE #: P-9 / D002

DRB #: 1004428 EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: Town of Artrisco Grant, Tracts RR-3A, RR-3-B, RR-3-C, RR-3-D, RR-3-E

CITY ADDRESS: _____

ENGINEERING FIRM: Mark Goodwin & Associates, PA
ADDRESS: PO Box 90606
CITY, STATE: Albuquerque, NM

CONTACT: Scott Medina
PHONE: 828-2200
ZIP CODE: 87199

OWNER: Albuquerque Rio Bravo Partners, LLC
ADDRESS: 6330 Riverside Plaza Lane NW, Suite220
CITY, STATE: Albuquerque, NM

CONTACT: Bill Allen/Mike Adams
PHONE: 440-7262
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ARCHITECT: _____
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CONTACT: _____
PHONE:
ZIP CODE: _____

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: Albuquerque, NM

CONTACT: _____
PHONE: _____
ZIP CODE: 87107

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

RECEIVED
AUG 14 2007
HYDROLOGY SECTION

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ☒ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
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- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
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- ☐ FOUNDATION PERMIT APPROVAL
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- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☒ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

- information for BZAD 8-14-07

DATE SUBMITTED: 8/14/2007 BY: Scott Medina

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot 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:

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3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 . FAX 797-9539

August 14, 2007

Mr. Brad Bingham, City Hydrologist
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Re: Ceja Vista Unit 3

Dear Mr. Bingham:

On behalf of Albuquerque Rio Bravo Partners, LLC, we are submitting a revised grading plan for Ceja Vista Unit 3. The Drainage and Grading plan has been revised to accommodate offsite flows from the adjacent Albuquerque Public School site (APS). The design allows for the 10-day, 100-yr storm event for existing conditions for off-site flows and developed conditions for Ceja Vista Unit 3. The storm drain is designed to accept a peak flow of 25 cfs from the APS site for developed conditions. This flow rate was agreed upon with AMAFCA and APS. The Ceja Vista Unit 3 storm drain system will not accommodate developed flows until the outfall has been constructed in Ceja Vista Phase II, currently being processed through Bernalillo County for special use permit. The Southwest Mesa High School is schedule to be completed in the fall of 2009.

Attached is a copy of the Bernalillo County approved grading plan for the APS site. The approved grading plan identifies a temporary retention pond designed to accommodate their interim condition flow rates.

Please contact if you have any questions.

Sincerely,

MARK GOODWIN & ASSOCIATES, P.A.

Scott Medina, PE
Project Engineer

ASM/a

Attachments

CITY OF ALBUQUERQUE

January 23, 2007

Scott Medina, P.E.
D. Mark Goodwin & Associates
PO Box 90606
Rio Rancho, NM 87199

Re: Ceja Vista Units 1, 2, and 3, Engineer's Stamp dated 1-22-07 (P9/D2D)
Tracts RR3A through RR3E, Request for Preliminary Plat Approval

Dear Mr. Medina,

Based on the information contained in your submittal received on January 22, 2007, the above referenced plan is approved for Preliminary Platting action by the DRB. Once the plan has been approved by the DRB, please submit a mylar copy to me in order to obtain rough grading approval.

This project will also require a National Pollutant Discharge Elimination System (NPDES) permit. Inquiries regarding this permit should be directed to Sertil Kanbar at 768-3645. If you have any questions or need additional information, feel free to contact me at 924-3990.

Sincerely,

Jeremy Hoover, P.E.
Senior Engineer
Hydrology Section
Development and Building Services

cc: file P9/D2D
Lynn Mazur, P.E., CFM, AMAFCA

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

Tim Eichenberg - Chair
Danny Hernandez - Vice Chair
Daniel F. Lyon - Secretary - Treasurer
Ronald D. Brown - Assistant Secretary - Treasurer
Janet Saiers - Director

John P. Kelly, P.E.
Executive Engineer

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority
2600 Prospect N.E., Albuquerque, NM 87107
Phone: (505) 884-2215 Fax: (505) 884-0214

Post-it® Fax Note 7671	Date 12-11	# of pages ▶ 1
To Brad Bingham	From Lynn Mazur	
Co./Dept. Hydrology	Co. AMAFCA	
Phone #	Phone #	
Fax #	Fax #	

December 11, 2006

Mr. Scott Medina, P.E.
D. Mark Goodwin & Associates, P.A.
P.O. Box 90606
Albuquerque, NM 87199

Re: Ceja Vista Subdivision Drainage Report, ZAP P-9
Engineer's Stamp Dated December 6, 2006

Dear Mr. Medina:

AMAFCA has reviewed the referenced report and approves the Grading and Drainage Plan for Preliminary Platting action. I would like to point out that, per our previous discussion, AMAFCA will accept free discharge from Unit 1 of Phase I, which is located at the southeast corner of Unser and Dennis Chavez. The total combined flow rate from the Dennis Chavez right-of-way and Unit 1 will be approximately 126 cfs to the Hubbell Channel and Dam system. Onsite detention will not be required for Unit 1.

AMAFCA will review and sign the work order plans. A water quality manhole to treat the first flush of debris and pollutants will be required for the Unit 1 storm drain system. The connection to the Hubbell Channel will also require a three-party license among the developer (builder), the City (for maintenance) and AMAFCA (licensor). This document is prepared by AMAFCA staff.

If you have any questions, please call me at 884-2215.

Sincerely,
AMAFCA

Lynn M. Mazur

Lynn M. Mazur, P.E., C.F.M.
Development Review Engineer

Cc: Brad Bingham, City Hydrology
Jerry Lovato, AMAFCA

[redacted]

MARK GOODWIN & ASSOCIATES
CONSULTING ENGINEERS

DRAINAGE REPORT

For

CEJA VISTA SUBDIVISION

Prepared for
Albuquerque Rio Bravo Partners, LLC
6330 Riverside Plaza Lane NW, Suite 220
Albuquerque, NM 87120

Prepared by

Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199
(505) 828-2200

January 9, 2007

ALVIN S. MEDINA
NEW MEXICO
16454
1/9/07
LICENSED PROFESSIONAL ENGINEER

RECEIVED
JAN 11 2007
HYDROLOGY SECTION

TABLE OF CONTENTS

I. INTRODUCTION 1

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III. HYDROLOGY 1

IV. PROPOSED DEVELOPED CONDITIONS 3

A. On-Site Drainage 3

B. Off-Site Drainage 4

V. CONCLUSIONS 4

FIGURE 1: VICINITY MAP
FIGURE 2: BASIN MAP

APPENDIX A – BASIN MAP/FEMA MAP
APPENDIX B – AHYMO - EXISTING CONDITIONS
APPENDIX C – AHYMO - DEVELOPED CONDITIONS
APPENDIX D –STREET & GRATE CAPACITIES
APPENDIX E –PROPOSED STORM DRAIN PLAN & PROFILE
APPENDIX F – MASTER GRADING AND DRAINAGE PLAN

I. INTRODUCTION

This conceptual drainage design report presents the proposed drainage solutions for the Ceja Vista subdivision. The drainage area comprises approximately 190 acres and is bounded by Dennis Chavez to the North, Albuquerque Public School property to the west, and private landowners to the south and east. The drainage master plan will address developed storm water conditions from the proposed development and future conditions for the south side of Dennis-Chavez. The developed storm water flows will be collected by a local storm drain network and discharged into the Hubbell Channel. Off-site storm water flows will be conveyed via existing surface drainage, utilizing a combination of existing drainage pathways, proposed storm drain, and proposed grading.

II. PURPOSE

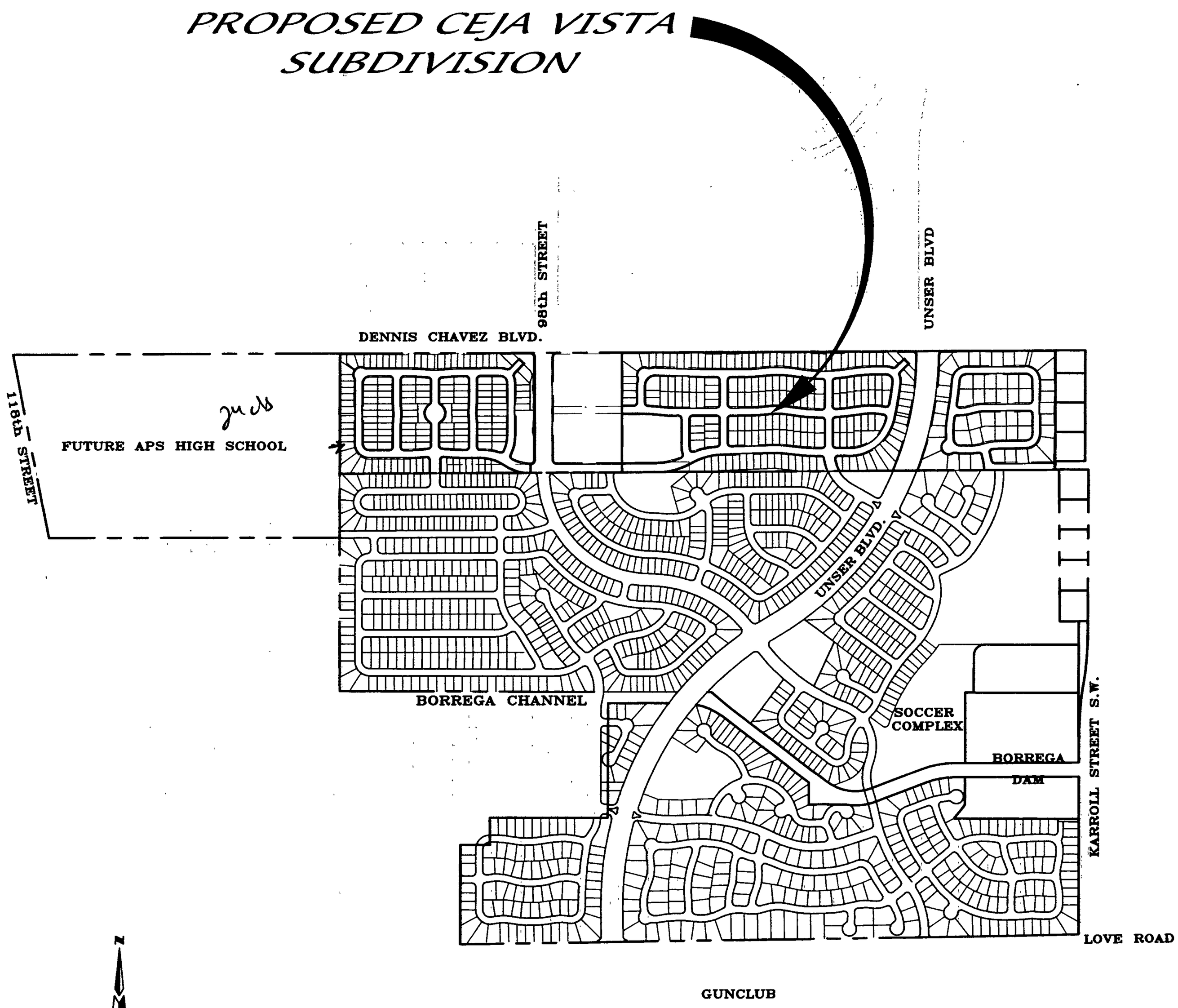
The purpose of this report is to present the drainage management plan for the development of the Ceja Vista Subdivision and obtain Preliminary Plat Approval. The proposed drainage plan will also require approval from AMAFCA prior to the completion of construction plans. The proposed drainage management plan is in accordance with the Amole-Hubbell Drainage Management Plan and the design Analysis Report for the Borrega Dam and North Borrega Channel. The drainage concepts within the proposed subdivision will include drainage improvements along Dennis Chavez, storm water ponds, storm drain improvements, and a connection to the Hubbell Channel.

III. HYDROLOGY

The proposed site and surrounding drainage areas consist of approximately 190 acres within the Rio Bravo Basin as identified in the Borrega Detention Dam & North Borrega Channel Design Analysis Report by Wilson & Company. The proposed Ceja Vista development consists of 99 acres. Currently the storm water runoff drains east through the proposed development site and discharges along Meade Road and various private properties, eventually discharging into the Amole Channel through an existing culvert under the Gun Club lateral. In addition, a Zone X FEMA floodplain will be remove with the construction of the proposed development, see Appendix A for current FEMA map.

The off-site drainage area consists of 26 acres within the Dennis-Chavez right-of-way and a 65 acre APS site along the western boundary. Currently this area along Dennis-Chavez drains east along the existing roadside ditch and discharges into the Rio Bravo channel immediately upstream of the existing box culvert.

Existing and proposed site hydrological conditions were analyzed for the 100-year, 6-hour storm event. The existing conditions model includes all the off-site basins in their existing conditions and the proposed development in the existing conditions. The existing conditions AHYMO from the Borrega Detention Dam & North Borrega Channel Design Analysis Report in included in Appendix B. This developed conditions model will provide the analysis utilizing future conditions for the off-site property and developed conditions for the proposed subdivision. All analysis and calculations supporting this report are located in Appendix B. The Arid-lands Hydrologic Model (AHYMO) was utilized for determination of existing condition peak flows and developed condition peak flows.



SCALE: 1" = 750'

CEJA VISTA SUBDIVISION
FUTURE DEVELOPED CONDITIONS

VICINITY MAP

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

A04jobs\A4095ANS\EXHIBIT\A4095-VICMAP.dwg\08-10-06\DER

IV. PROPOSED DEVELOPED CONDITIONS

There are two (2) major drainage management components presented in this report. First, the on-site developed conditions consisting of all on-site storm water collected within the proposed subdivision. The second component is the off-site drainage consisting of Dennis-Chavez and the Albuquerque Public School site.

A. On-Site Drainage

The overall drainage concept for the Ceja Vista Subdivision includes grading Units 1 to drain towards the northeast corner of the site discharging to the Hubbell Channel, and grading Units 2 and 3 to drain to the south adventually discharging to the Borrega Dam. The proposed drainage plan for the proposed site includes collecting storm water in a storm drain system located in within their respective sites. The north-south streets have an average slope ranging from 0.5% to 1.0%, and the east-west streets have an average slope ranging from 2.0% to 3.3%. The street capacities and grate capacities are shown in Appendix D.

1. Unit 1

The proposed grading for Unit 1 consists of draining the site towards the northeast (intersection of Pita Verde and Lunaria) into a permanent detention pond. All storm water will be collected into a storm water detention pond (maintained by the City of Albuquerque) in order to reduce peak flow rates and reduce the storm drain size discharging into the Hubbell Channel. The detention pond will be sized to accommodate additional volume from future phases. The inlets at this location will be in a sump condition. The capacity for these inlets was determine utilizing the weir equation with 15 cfs for single grate and 22.5 cfs for double grate. The street and pond will allow excess storm water to discharge into Dennis-Chavez.

2. Unit 2 & Unit 3

The proposed grading for Unit 2 and Unit 3 consists of draining the development towards the southeast corner of the site. The interim condition will consist of collecting the storm water into a temporary retention pond with a volume equivalent to the 100-yr, 10 day storm event. The permanent solution will include constructing a storm drain outfall into the Borrega Dam during Phase II of the Ceja Vista subdivision. Unit 2 will utilize the land reclaimed from temporary retention pond for additional residential lots. Unit 3 will utilize the land reclaimed fro a future park & ride. The capacity for inlets located in sump conditions were determine utilizing the weir equation with 15 cfs for single grate and 22.5 cfs for double grate. The street profile will be designed to allow for excessive flows to discharge into Unser Blvd. The calculations for the temporary pond volumes are shown in Appendix D.

Unit 3 will also include a temporary storm water retention pond equivalent to the 100-yr, 10 day storm event for the APS site. The pond will be located in the southwest corner of Unit 3, and will be removed with the construction of the new APS high school. The new APS high school is projected to be built concurrently with Phase II of the Ceja Vista Subdivision.

Developed Conditions Time to Peak

Basin	Description	Length (ft)	Slope (ft/ft)	K	V (fps)	Tp (hr)
104	APS	2200	0.03	2.50	3.95	0.13
103	Unit 3	1800	0.022	2.50	3.71	0.13
103B	Dennis-Chavez	3500	0.030	2.50	4.33	0.13
102	Unit2	2300	0.028	2.75	4.60	0.13
102A	98th St/Comm.	830	0.020	3.00	4.24	0.13
102B	Dennis-Chavez	2700	0.024	2.50	3.87	0.13
102C	Open Space	400	0.009	3.00	2.85	0.13
102D	Unser Blvd.	820	0.009	3.00	2.85	0.13
101	Unit 1	1200	0.015	2.75	3.37	0.13
101B	Dennis-Chavez	1000	0.024	2.50	3.87	0.13

*Minimum Tp value was substituted

B. *Off-Site Drainage*

The upstream drainage area, shown in Figure 2, consists of approximately 65 acres located west of the proposed Ceja Vista development. The proposed development will grade the existing APS site to drain towards the southeast corner to the site. This grading and drainage scheme follows the existing drainage easements and the Borrega Detention Dam and Upstream Borrega Arroyo Channel Agreement between AMAFCA and the adjacent property owners. These requirements are present in the Borrega Detention Dam & North Borrega Channel Design Analysis Report by Wilson & Company. The report was followed by the Borrega Detention Dam and Upstream Borrega Arroyo Channel Agreement between AMAFCA and the adjacent property owners.

1. *Dennis-Chavez*

In addition to the APS property, the proposed storm drain will also collect storm water from the Southside of Dennis Chavez. Currently, the south side of Dennis Chavez is collected in the Rio Bravo channel.

Developed Conditions Drainage Basins

Basin	Area (ac)	Area (mi^2)	Land Treatment A	B	C	D
APS	65	0.102	95%	5.0%	0.0%	0.0%
Unit 3	26.88	0.042	0%	28.3%	28.3%	43.5%
Unit 2	36.46	0.057	0%	29.3%	29.3%	41.4%
Unit 1	32.47	0.027	0%	33.6%	33.6%	32.7%
Comm. 2	12.10	0.019	0%	7.5%	7.5%	85.0%
Open Sp	2.92	0.005	100%	0.0%	0.0%	0.0%
Unser	3.10	0.005	0%	17.2%	17.2%	65.7%
Dennis-Chavez (118th to 98th)	12.16	0.019	0%	40.0%	40.0%	20.0%
Dennis-Chavez (98th to Unser)	8.15	0.013	0%	40.0%	40.0%	20.0%
Dennis-Chavez (Unser to Condershire)	2.21	0.003	0%	40.0%	40.0%	20.0%

V. CONCLUSIONS

The proposed drainage management plan provides conceptual solutions for the regional drainage issues associated with the Ceja Vista Subdivision. The describe drainage manage plan will allow additional capacity within the Borrega Dam for future development within the adjacent properties. All proposed storm water improvements will be constructed in accordance with City standards and the improvements to the Amole Channel will be in accordance with AMAFCA requirements.

APPENDIX A

BASIN MAP/FEMA MAP

DENNIS CHAVEZ BLVD.

98th STREET

UNSER BLVD

118th STREET

FUTURE APS HIGH SCHOOL

APS 104

103B

Q=40 cfs

NEW SD

102B

Q=27 cfs

101B

Q=8 cfs

Q=59 cfs

NEW SD

Q=5 cfs

Q=99 cfs

103

Q=88 cfs

NEW SD

103A

Q= 48cfs

102A

102

NEW SD

101A

101

Q=92 cfs

Q=165 cfs

FUTURE PHASES

UNSER BLVD.

BORREGA CHANNEL

SOCCER COMPLEX

BORREGA DAM

KARROLL STREET S.W.

N

SCALE: 1" = 600'

LEGEND

(103) PROPOSED BASIN ID

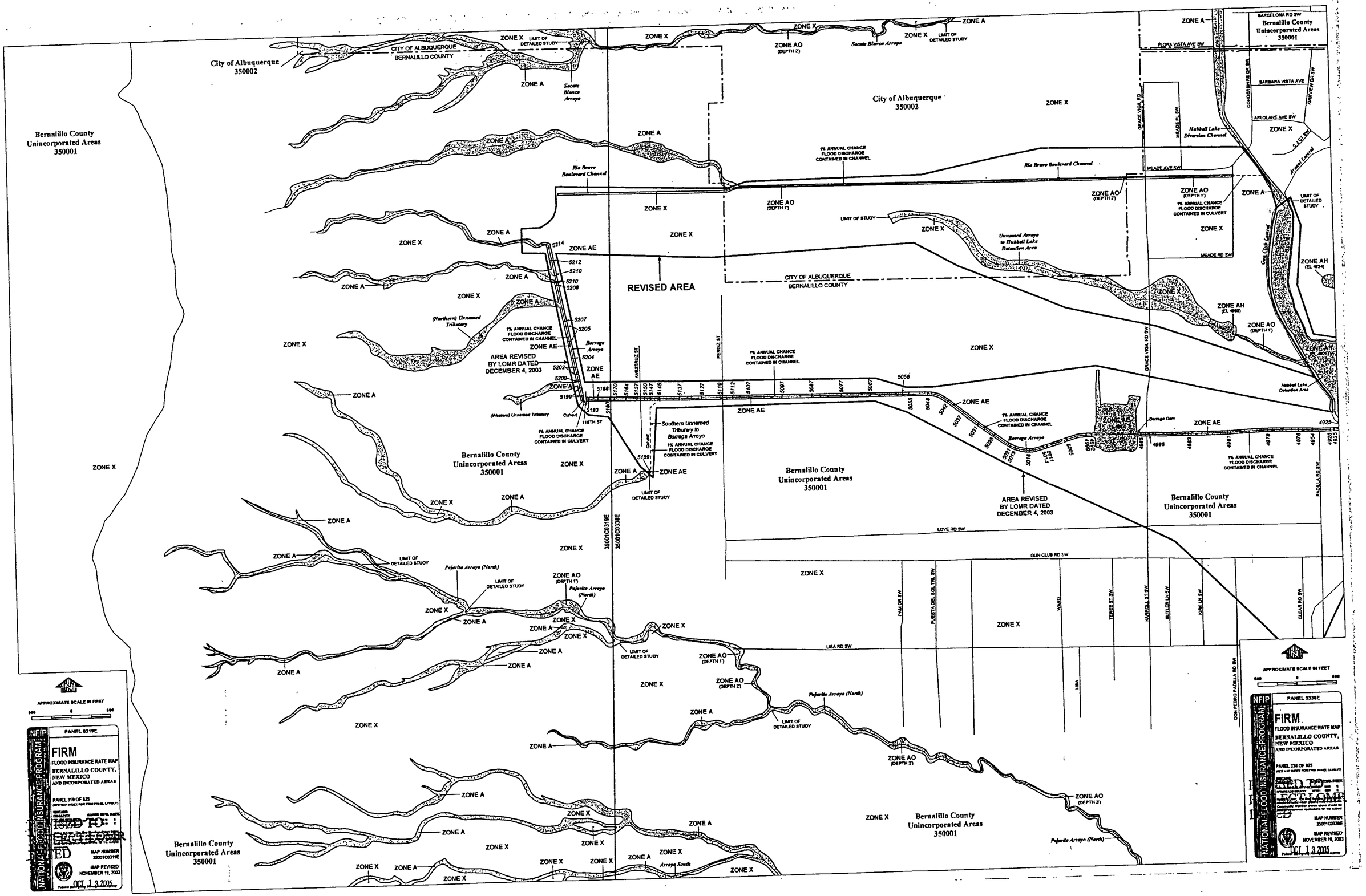
PROPOSED BASIN BOUNDARY

CEJA VISTA SUBDIVISION
FUTURE DEVELOPED CONDITIONS

DRAINAGE BASIN MAP

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

A04jobs\A4095ANS\GRADING & DRAINAGE\DRAINAGE REPORT EXHIBITS\A4095-DBMAP-REV.dwg\12-06-06\DER ACH


City of Albuquerque
350002
Bernalillo County
Unincorporated Areas
350001
CITY OF ALBUQUERQUE
BERNALILLO COUNTY
LIMIT OF DETAILED STUDY
ZONE X
ZONE A
ZONE AO
(DEPTH 2)
Sacate Blanco Arroyo
ZONE AO
(DEPTH 1)
Rio Bravo Boulevard Channel
1% ANNUAL CHANCE
FLOOD DISCHARGE
CONTAINED IN CHANNEL
LIMIT OF STUDY
Unnamed Arroyo
to Hubbell Lake
Detention Area
REVISED AREA
ZONE AE
5214
5212
5210
5208
5207
5205
5204
5202
5200
5199
5193
5188
5170
5164
5157
5150
5147
5145
5137
5127
5119
5112
5107
5097
5087
5077
5067
5056
5055
5048
5042
5037
5031
5026
5023
5018
5016
5013
5005
5591
(Northern) Unnamed Tributary
Barrego Arroyo
AREA REVISED
BY LOMR DATED
DECEMBER 4, 2003
(Western) Unnamed Tributary
Culvert
118TH ST
AVESTRUZ ST
PEROUZ ST
Southern Unnamed
Tributary to
Barrego Arroyo
1% ANNUAL CHANCE
FLOOD DISCHARGE
CONTAINED IN CULVERT
Barrego Dam
Gun Club Lateral
Hubbell Lake
Diversion Channel
Hubbell Lake
Detention Area
ZONE AH
(EL 4924)
ZONE AH
(EL 4985)
ZONE AO
(DEPTH 1)
1% ANNUAL CHANCE
FLOOD DISCHARGE
CONTAINED IN CULVERT
4925
4986
4983
4981
4978
4976
4954
4926
4923
Pajarito Arroyo (North)
Arroyo South
3501C0319E
3501C0338E
BARCELONA RD SW
FLORA VISTA AVE SW
BARBARA VISTA AVE
CONCORDIA DR SW
KIRKVIEW DR SW
ARLOLANE AVE SW
GRACE VIGIL RD
MEADE PL SW
MEADE AVE SW
MEADE RD SW
GRACE VIGIL RD SW
PADILLA RD SW
LOVE RD SW
GUN CLUB RD SW
USA RD SW
PASO DR SW
PUESTA DEL SOL TRL SW
WARD
TERRE ST SW
KARROLL ST SW
BUTLER LN SW
YORK LN SW
CLEAR RD SW
LISA
DON PEDRO PADILLA RD SW
APPROXIMATE SCALE IN FEET
500
0
500
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0319E
FIRM
FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO
AND INCORPORATED AREAS
PANEL 319 OF 825
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
MAP NUMBER
3501C0319E
MAP REVISED:
NOVEMBER 19, 2003
OCT 13 2005
PANEL 0338E
FIRM
FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO
AND INCORPORATED AREAS
PANEL 338 OF 825
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
MAP NUMBER
3501C0338E
MAP REVISED:
NOVEMBER 19, 2003
OCT 13 2005

APPENDIX B

AHYMO OUTPUT
EXISTING CONDITIONS

358.02.04
Design Analysis Report for Borrega
Detention Dam and North Borrega Channel
Wilson & Company
Wilson & Company, 2000

Design Analysis Report for

Borrega Detention Dam and North Borrega Channel

in
Bernalillo County, NM

Prepared for

AMAFCA

Albuquerque Metropolitan Arroyo
Flood Control Authority
Albuquerque, NM

Submitted by

Wilson & Company, Engineers & Architects
4900 Lang Avenue N.E.
Albuquerque, New Mexico 87109
(505) 348-4000

WCEA File No: 99-210-099

April 2000

AMAFCA
File Copy

WILSON
&COMPANY

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AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -                          - VERSION:  1997.02c      RUN DATE (MON/DAY/YR) =04/09/2000
INPUT FILE = X:\PUBLIC\PROJECTS\99099\AHYM\FUTURE\BOR_FUTU.DAT                             USER NO.= AHYMO-I-9702a01000C05-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

START                                                                                                          TIME=       .00
*S << WILSON&COMPANY (WCEA) AHYMO ANALYSIS FOR DESIGN OF THE BORREGA DAM.
*S   BASED ON LEEDSHILL AHYMO MODEL FOR THE '99 AMOLE-HUBBELL DMP (A-H DMP).
*S   THE LEEDSHILL MODEL WAS BASED ON THE '92 BHI AHYMO MODEL.
*S
*S  FILENAME: BOR_FUTU.DAT
*S   BORREGA DAM PHASE "B", FUTURE CONDITIONS, FULL DEVELOPMENT, UNBULKED.
*S
*S  1. BORREGA WATERSHED FULLY DEVELOPED
*S  2. AM SW HOMES (BELL PROPERTY) IS DEVELOPED & ADDED TO BORREGA DAM.
*S  3. BASIN 50201 IS DEVELOPED & ADDED TO BORREGA DAM.
*S
*S*****************************************************************************
*S
*S******************************************************************************
*S
*S      BORREGA WATERSHED
*S
*S
*S 100 YEAR 24HR STORM DEVELOPED CONDITION
RAINFALL  TYPE= 2                                                                                          RAIN24=   2.660
*S*****************************************************************************
*S
*S COMPUTE FLOWS FROM SUB-BASIN B-2 OF RIO BRAVO
*S <<A-H AREA WAS 0.0754. WCEA REDUCED AREA TO 0.0445 BECAUSE THE RIO BRAVO
*S   BLVD EXTENSION DIVIDES THE BASIN >>
COMPUTE NM HYD        202.00   -     1        .04450        87.36       3.236      1.36343    1.500    3.067 PER IMP=  34.00
*S
*S ROUTE FLOWS TO POND 8
ROUTE MCUNGE          202.50    1   11        .04450        87.31       3.246      1.36779    1.600    3.066 CCODE =      .2
*S
*S COMPUTE HYDROGRAPH FOR B-4 (WEST) FROM RIO BRAVO REDUCE AREA TO 41 AC
COMPUTE NM HYD        204.00   -     1        .06410       125.84       4.661      1.36343    1.500    3.067 PER IMP=  34.00
*S
*S ADD THE ROUTED FLOWS FROM SUB-BASIN 202.5 TO THE FLOWS FROM SUB-BASIN 204
ADD HYD               204.10  1&11  11        .10860       196.42       7.907      1.36521    1.550    2.826
*S
*S ROUTE FLOWS THROUGH POND 8
ROUTE RESERVOIR    POND8.OUT   11   80        .10860        42.96       7.907      1.36520    2.000     .618 AC-FT=    4.100
*S
*S ROUTE FLOWS TO JUNCTION
*S << FLOW TO CULVERT CROSSING UNDER RIO BRAVO BLVD/118TH ST TO NE
*S   GETS ADDED TO RIO BRAVO CHAN N SIDE OF RIO BRAVO BLVD EXTENSION>>
ROUTE MCUNGE          RB_CULV   80   11        .10860        42.98       7.907      1.36521    2.000     .618 CCODE =      .2
*S
*S*****************************************************************************
*S
*S COMPUTE FLOWS FROM SUB-BASIN 50104 FROM BORREGA (7B)
COMPUTE NM HYD        104.00   -     1        .03930        72.17       2.667      1.27251    1.500    2.869 PER IMP=  32.00
*S
*S ROUTE FLOWS TO POND 7
ROUTE MCUNGE          103.50    1   12        .03930        71.63       2.674      1.27559    1.550    2.848 CCODE =      .2
*S
*S COMPUTE FLOWS FROM SUB-BASIN 50103 FROM BORREGA (7K)
COMPUTE NM HYD        103.00   -     1        .05400       102.13       3.834      1.33141    1.500    2.955 PER IMP=  35.00
```

```
*S
*S ROUTE FLOWS TO POND 7

                                FROM  TO                    PEAK        RUNOFF                TIME TO    CFS      PAGE =    2
                   HYDROGRAPH   ID    ID        AREA     DISCHARGE     VOLUME      RUNOFF      PEAK      PER
COMMAND          IDENTIFICATION NO.  NO.      (SQ MI)     (CFS)       (AC-FT)    (INCHES)   (HOURS)    ACRE      NOTATION

ROUTE MCUNGE           104.50    1   13        .05400      101.60       3.831     1.33030     1.600    2.940 CCODE =      .1
*S
*S ADD THE ROUTED FLOWS FROM SUB-BASIN 50103.5 TO THE ROUTED FLOWS
ADD HYD                104.60 12&13  12        .09330      171.56       6.505     1.30724     1.600    2.873
*S
*S COMPUTE FLOWS FROM SUB-BASIN 50105 (WEST) FROM BORREGA
COMPUTE NM HYD           105W   -     1        .14130      270.97      12.038     1.59742     1.500    2.996 PER IMP=  49.00
*S
*S ADD THE ROUTED FLOWS FROM SUB-BASIN 50105 (WEST) TO THE ROUTED FLOWS
ADD HYD              POND7.IN  1&12  12        .23460      428.46      18.543     1.48201     1.550    2.854
*S
*S ROUTE FLOWS THROUGH POND 7
ROUTE RESERVOIR    POND7.OUT   12    70        .23460      146.29      18.433     1.47323     1.850     .974 AC-FT=    8.314
*S
*S ROUTE FLOWS IN 118TH ST CHAN TO N BORREGA CHAN INTAKE UNDER 118TH ST
ROUTE MCUNGE           106.05   70    12        .23460      145.75      18.401     1.47068     1.950     .971 CCODE =      .1
*S
*S  BASIN NO. 50106
*S << BASIN CUT OFF AT 118TH/POWERLINE TO DIVERT SOUTH, CALCED NEW AREA & TP
COMPUTE NM HYD         106.00    -     3        .08560      170.83       7.293     1.59741     1.500    3.118 PER IMP=  49.00
*S
*S ADD THE FLOW FROM SUB-BASIN 106 TO THE FLOW FROM POND7
ADD HYD                106.10  3&12    3        .32020      198.12      25.694     1.50456     1.800     .967
*S
*S ROUTE FLOW THU PROPOSED N BORREGA CHAN TO 48" PIPE UPSTRM OF AVESTRUZ ST
*S <<ASSUMED CONC CHANNEL SECTION, 2:1 SIDE SLOPES, 10' BOTTOM>>
ROUTE MCUNGE           106.30    3    14        .32020      198.10      25.681     1.50382     1.800     .967 CCODE =      .1
*S  << PAAKWEREE BASIN C >>
SEDIMENT BULK                                                                                                PK BF =    1.00
COMPUTE NM HYD        BASIN_C    -     1        .01380       26.52        .946     1.28597     1.500    3.003 PER IMP=  28.00
*S <<TOTAL FLOW IN CHAN UPSTRM OF 48" PIPE, AT AVESTRUZ ST
ADD HYD                106.31  1&14   14        .33400      205.93      26.628     1.49482     1.800     .963
*S  << PAAKWEREE BASIN A >>
COMPUTE NM HYD        BASIN_A    -     1        .05130       84.88       2.517      .91999     1.500    2.585 PER IMP=   5.00
*S <<TOTAL FLOW IN CHAN DNSTRM OF 48" PIPE, AT AVESTRUZ ST
ADD HYD                105E.1  1&14   14        .38530      275.04      29.145     1.41828     1.550    1.115
ROUTE MCUNGE           106.33   14    13        .38530      275.04      29.145     1.41828     1.550    1.115 CCODE =      .0
*S  LH BASIN NO. 50101
SEDIMENT BULK                                                                                                PK BF =    1.00
COMPUTE NM HYD         101.10    -     1        .15400      271.03      12.024     1.46394     1.550    2.750 PER IMP=  42.00
ROUTE MCUNGE           201.10    1    10        .15400      259.78      11.953     1.45535     1.800    2.636 CCODE =      .1
*S  LH BASIN NO. 50102
*S  << BASIN DIVIDED AT PAAKWEREE BNDRY, OLD AREA WAS 0.182 SQ MI >>
COMPUTE NM HYD         102.10    -     1        .12770      271.99      10.879     1.59742     1.500    3.328 PER IMP=  49.00
*S <<FLOW INTO THE UPSTREAM END OF THE CULVERT UNDER PAVO ST. >>
ADD HYD                S_CULV  1&10    5        .28170      345.75      22.833     1.51974     1.800    1.918
*S  << PAAKWEREE BASIN D >>
SEDIMENT BULK                                                                                                PK BF =    1.00
COMPUTE NM HYD        BASIN_D    -     1        .01440       30.68       1.227     1.59741     1.500    3.329 PER IMP=  49.00
ADD HYD                    D1   5& 1   15        .29610      355.46      24.059     1.52352     1.800    1.876
*S <<FLOW IN CHAN DNSTRM OF 8X4 CBC>>
ADD HYD                106.35 15&13   15        .68140      583.55      53.204     1.46402     1.800    1.338
ROUTE MCUNGE           106.40   15     3        .68140      583.55      53.204     1.46402     1.800    1.338 CCODE =      .0
*S  << PAAKWEREE BASIN E >>
COMPUTE NM HYD        BASIN_E    -     1        .01440       30.68       1.227     1.59741     1.500    3.329 PER IMP=  49.00
ADD HYD                106.50  3& 1   15        .69580      593.25      54.431     1.46678     1.800    1.332
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ROUTE MCUNGE          106.60   15    3        .69580       593.25      54.431      1.46678    1.800    1.332 CCODE =      .0
*S  << PAAKWEREE BASIN B >>

                                FROM  TO                    PEAK        RUNOFF                TIME TO    CFS      PAGE =   3
                   HYDROGRAPH   ID    ID        AREA     DISCHARGE     VOLUME      RUNOFF      PEAK     PER
COMMAND          IDENTIFICATION NO.   NO.     (SQ MI)     (CFS)       (AC-FT)    (INCHES)   (HOURS)   ACRE      NOTATION

COMPUTE NM HYD        BASIN_B   -     1        .06410       136.51       5.461      1.59742    1.500    3.328 PER IMP=  49.00
*S  TOTAL FLOW IN PROPOSED N BORREGA CHANNEL AT PERDIZ ST>>
ADD HYD               107.10  1& 3   2        .75990       727.59      59.892      1.47780    1.500    1.496
ROUTE MCUNGE          107.20    2    3        .75990       719.42      59.898      1.47793    1.550    1.479 CCODE =      .2
*S  << PAAKWEREE BASIN F >>
COMPUTE NM HYD        BASIN_F   -     1        .03360        71.56       2.863      1.59741    1.500    3.328 PER IMP=  49.00
ADD HYD               107.30  1& 3   2        .79350       787.47      62.760      1.48299    1.500    1.551
ROUTE MCUNGE          107.40    2    3        .79350       786.79      62.706      1.48170    1.550    1.549 CCODE =      .1
*S  << PAAKWEREE BASIN G >>
COMPUTE NM HYD        BASIN_G   -     1        .03520        74.97       2.999      1.59742    1.500    3.328 PER IMP=  49.00
*S  TOTAL FLOW IN PROPOSED N BORREGA CHANNEL AT PARDAL ST>>
ADD HYD               107.50  1& 3   2        .82870       853.67      65.704      1.48661    1.550    1.610
ROUTE MCUNGE          107.60    2    3        .82870       853.67      65.704      1.48661    1.550    1.610 CCODE =      .0
*S  LH BASIN NO, 50108
*S   << HALF RESIDENTIAL/HALF GOLF COURSE PROPOSED (BELL PROPERTY) >>
SEDIMENT BULK                                                                                              PK BF =    1.00
COMPUTE NM HYD        108.00   -     1        .08130        99.90       4.982      1.14903    1.600    1.920 PER IMP=  25.00
*S << TOTAL FLOW DNSTREAM OF PAAKWEREE IN PROPOSED N BORREGA CHANNEL>>
ADD HYD               108.30  1& 3   2        .91000       946.37      70.687      1.45645    1.550    1.625
ROUTE MCUNGE          108.40    2    3        .91000       943.74      70.646      1.45563    1.600    1.620 CCODE =      .1
*S  LH BASIN NO. 50109
COMPUTE NM HYD        109.10   -     1        .23440       391.32      19.970      1.59742    1.550    2.609 PER IMP=  49.00
*S << FLOW IN PROPOSED N BORREGA ARROYO CHANNEL AT AP 109
ADD HYD               109.30  1& 3   3       1.14440      1332.23      90.616      1.48467    1.600    1.819
*S ROUTE FLOW ABOVE AP109 TO CONFLUENCE WITH BASIN 50201
*S <<ASSUMED CONC CHANNEL SECTION, 2:1 SIDE SLOPES, 12' BOTTOM
ROUTE MCUNGE          109.50    3    4       1.14440      1323.51      90.625      1.48481    1.600    1.807 CCODE =      .2
*S  LH BASIN NO. 50110
*S <<CHANGED TO HALF RESID/HALF GOLF COURSE PROPOSED (BELL PROPERTY) >>
COMPUTE NM HYD        110.00   -     1        .10180       177.08       6.238      1.14904    1.500    2.718 PER IMP=  25.00
*S  <<ADD 50110 TO CHANNEL.  TOTAL CHANNEL FLOW TO DAM>>
ADD HYD               110.10  1& 4   2       1.24620      1452.14      96.863      1.45738    1.600    1.821
*S LH BASIN 50201
COMPUTE NM HYD        201.00   -     1        .14730       229.72      12.549      1.59741    1.600    2.437 PER IMP=  49.00
*S << BORREGA DIVERSION STORM DRAIN >>
DIVIDE HYD           201DIV1    1    1        .14730       229.72      12.549      1.59741    1.600    2.437
                     201DIV2  and   21        .00000          .00        .000       .00000    -.050     .000
*S  ADD 50201 TO DAM
ADD HYD               110.15  1& 2   4       1.39350      1681.86     109.413      1.47219    1.600    1.886
*S  <<BASIN NO. 70102 (B-4 EAST)  44 ACRES>>
COMPUTE NM HYD        B4EAST   -     6        .06770       109.76       4.288      1.18751    1.550    2.533 PER IMP=  16.00
*S <<ROUTE B-4 EAST THROUGH B-6>>
ROUTE MCUNGE           B4E.1    6    5        .06770       105.13       4.260      1.17984    1.850    2.426 CCODE =      .1
*S  <<BASIN NO. 70103 (B-6)  >>
*S  <<HALF RESID/HALF GOLF COURSE PROPOSED (BELL PROPERTY) >>
COMPUTE NM HYD             B6   -     1        .28690       357.99      17.582      1.14903    1.600    1.950 PER IMP=  25.00
*S <<TOTAL B-4 EAST AND B-6>>
ADD HYD                  B6.1  1& 5   7        .35460       363.95      21.842      1.15491    1.650    1.604
*S << PROPOSED FUTURE STORM DRAIN FROM BELL PROPERTY TO DAM >>
DIVIDE HYD           B6.1DIV1    7    7        .35460       363.95      21.842      1.15491    1.650    1.604
                     B6.1DIV2  and   22        .00000          .00        .000       .00000    -.050     .000
*S << TOTAL INTO BORREGA DAM >>
ADD HYD               110.20  7& 4   4       1.74810      2045.39     131.254      1.40783    1.600    1.828
*S
*S
*S ****************************************************
```

```
*S  BORREGA DAM PHASE "B' PER WCEA DESIGN
*S                    OUTFLOW      STORAGE      ELEV
*S                      0            0          4985
*S                      0.4          2.02       4986

                                 FROM  TO                    PEAK        RUNOFF                TIME TO    CFS      PAGE =    4
                   HYDROGRAPH    ID    ID        AREA     DISCHARGE     VOLUME      RUNOFF      PEAK     PER
COMMAND          IDENTIFICATION  NO.   NO.     (SQ MI)     (CFS)       (AC-FT)    (INCHES)   (HOURS)   ACRE      NOTATION

*S                      4            7.94       4987
*S                      8           14.10       4988
*S                     14           20.51       4989
*S                     24           27.17       4990
*S                     36           34.08       4991
*S                     49           41.78       4992
*S                     69           50.84       4993
*S                    163           61.26       4994
*S                    174           73.20       4995
*S                    184           86.10       4996
*S                    191           99.30       4997
*S                    225          100.64       4997.1
*S                   1252          112.80       4998
*S                   3176          126.55       4999
*S                   5667          140.56       5000
*S                   8620          154.85       5001
*S                  11966          169.29       5002
*S                  15667          184.32       5003
ROUTE RESERVOIR    BPOND.OUT    4   99       1.74810       184.95     115.283      1.23652    2.700     .165 AC-FT=   87.899
*S HYD=BPOND.OUT IS *****AP 51*****
ROUTE MCUNGE         110.50   99    4        1.74810       184.94     115.091      1.23446    2.800     .165 CCODE =      .2
*S  LH BASIN NO. 50111
 COMPUTE NM HYD      111.00   -     2         .03790        75.78       3.006      1.48691    1.500    3.124 PER IMP=  45.00
 ADD HYD          BR_DMP1.HYD  4& 2   2       1.78600       186.15     118.097      1.23982    2.650     .163
 *S HYD=BR_DMP1.HYD IS *****AP 52*****
 FINISH
(s10H
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AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -                        - VERSION:  1997.02c      RUN DATE (MON/DAY/YR) =04/09/2000
INPUT FILE = X:\PUBLIC\PROJECTS\99099\AHYM\FUTURE\BOR_FUTU.DAT                          USER NO.= AHYMO-I-9702a01000C05-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

START                                                                                                          TIME=        .00
*S << WILSON&COMPANY (WCEA) AHYMO ANALYSIS FOR DESIGN OF THE BORREGA DAM.
*S   BASED ON LEEDSHILL AHYMO MODEL FOR THE '99 AMOLE-HUBBELL DMP (A-H DMP).
*S   THE LEEDSHILL MODEL WAS BASED ON THE '92 BHI AHYMO MODEL.
*S
*S  FILENAME: BOR_FUTU.DAT
*S   BORREGA DAM PHASE "B", FUTURE CONDITIONS, FULL DEVELOPMENT, UNBULKED.
*S
*S  1. BORREGA WATERSHED FULLY DEVELOPED
*S  2. AM SW HOMES (BELL PROPERTY) IS DEVELOPED & ADDED TO BORREGA DAM.
*S  3. BASIN 50201 IS DEVELOPED & ADDED TO BORREGA DAM.
*S
*S*******************************************************************************
*S
*S*********************************************************************************
*S
*S      BORREGA WATERSHED
*S
*S
*S PMP LOCAL STORM
RAINFALL  TYPE= 3                                                                                          RAIN6=   16.000
*S*******************************************************************************
*S
*S COMPUTE FLOWS FROM SUB-BASIN B-2 OF RIO BRAVO
*S <<A-H AREA WAS 0.0754. WCEA REDUCED AREA TO 0.0445 BECAUSE THE RIO BRAVO
*S   BLVD EXTENSION DIVIDES THE BASIN >>
COMPUTE NM HYD        202.00   -     1        .04450       901.25      30.735     12.95028    2.250   31.645 PER IMP=  34.00
*S
*S ROUTE FLOWS TO POND 8
ROUTE MCUNGE          202.50    1   11        .04450       897.22      30.780     12.96923    2.300   31.504 CCODE =      .2
*S
*S COMPUTE HYDROGRAPH FOR B-4 (WEST) FROM RIO BRAVO REDUCE AREA TO 41 AC
COMPUTE NM HYD        204.00   -     1        .06410      1298.08      44.273     12.95027    2.250   31.642 PER IMP=  34.00
*S
*S ADD THE ROUTED FLOWS FROM SUB-BASIN 202.5 TO THE FLOWS FROM SUB-BASIN 204
ADD HYD               204.10  1&11  11        .10860      2098.52      75.053     12.95803    2.250   30.193
*S
*S ROUTE FLOWS THROUGH POND 8
ROUTE RESERVOIR    POND8.OUT   11   80        .10860       221.17      75.053     12.95804    2.900    3.182 AC-FT=   91.185
*S
*S ROUTE FLOWS TO JUNCTION
*S << FLOW TO CULVERT CROSSING UNDER RIO BRAVO BLVD/118TH ST TO NE
*S   GETS ADDED TO RIO BRAVO CHAN N SIDE OF RIO BRAVO BLVD EXTENSION>>
ROUTE MCUNGE         RB_CULV   80   11        .10860       220.38      75.007     12.95010    3.000    3.171 CCODE =      .2
*S
*S*********************************************************************
*S
*S COMPUTE FLOWS FROM SUB-BASIN 50104 FROM BORREGA (7B)
COMPUTE NM HYD        104.00   -     1        .03930       790.91      26.636     12.70823    2.250   31.445 PER IMP=  32.00
*S
*S ROUTE FLOWS TO POND 7
ROUTE MCUNGE          103.50    1   12        .03930       781.01      26.681     12.72932    2.300   31.052 CCODE =      .2
*S
*S COMPUTE FLOWS FROM SUB-BASIN 50103 FROM BORREGA (7K)
COMPUTE NM HYD        103.00   -     1        .05400      1089.89      37.044     12.86259    2.250   31.536 PER IMP=  35.00
```

```
*S
*S ROUTE FLOWS TO POND 7

                                FROM  TO                    PEAK        RUNOFF                TIME TO   CFS      PAGE =    2
                   HYDROGRAPH   ID    ID        AREA     DISCHARGE     VOLUME      RUNOFF      PEAK     PER
COMMAND          IDENTIFICATION  NO.  NO.     (SQ MI)     (CFS)       (AC-FT)    (INCHES)   (HOURS)   ACRE      NOTATION

ROUTE MCUNGE          104.50     1   13       .05400     1049.28      37.084     12.87646    2.300   30.361 CCODE =      .2
*S
*S ADD THE ROUTED FLOWS FROM SUB-BASIN 50103.5 TO THE ROUTED FLOWS
ADD HYD               104.60 12&13  12       .09330     1830.29      63.765     12.81447    2.300   30.652
*S
*S COMPUTE FLOWS FROM SUB-BASIN 50105 (WEST) FROM BORREGA
COMPUTE NM HYD          105W   -     1       .14130     2592.08     102.202     13.56188    2.250   28.663 PER IMP=  49.00
*S
*S ADD THE ROUTED FLOWS FROM SUB-BASIN 50105 (WEST) TO THE ROUTED FLOWS
ADD HYD              POND7.IN  1&12  12       .23460     4383.68     165.967     13.26463    2.300   29.197
*S
*S ROUTE FLOWS THROUGH POND 7
ROUTE RESERVOIR    POND7.OUT    12   70       .23460     1341.27     165.960     13.26406    2.550    8.933 AC-FT=   68.063
*S
*S ROUTE FLOWS IN 118TH ST CHAN TO N BORREGA CHAN INTAKE UNDER 118TH ST
ROUTE MCUNGE          106.05    70   12       .23460     1339.51     165.956     13.26378    2.550    8.922 CCODE =      .2
*S
*S  BASIN NO. 50106
*S << BASIN CUT OFF AT 118TH/POWERLINE TO DIVERT SOUTH, CALCED NEW AREA & TP
COMPUTE NM HYD        106.00   -     3       .08560     1640.71      61.914     13.56188    2.250   29.949 PER IMP=  49.00
*S
*S ADD THE FLOW FROM SUB-BASIN 106 TO THE FLOW FROM POND7
ADD HYD               106.10  3&12   3       .32020     2268.01     227.871     13.34347    2.300   11.067
*S
*S ROUTE FLOW THU PROPOSED N BORREGA CHAN TO 48" PIPE UPSTRM OF AVESTRUZ ST
*S <<ASSUMED CONC CHANNEL SECTION, 2:1 SIDE SLOPES, 10' BOTTOM>>
ROUTE MCUNGE          106.30     3   14       .32020     2268.01     227.871     13.34347    2.300   11.067 CCODE =      .0
*S  << PAAKWEREE BASIN C >>
SEDIMENT BULK                                                                                             PK BF =    1.00
COMPUTE NM HYD       BASIN_C   -     1       .01380      278.89       9.384     12.75063    2.250   31.578 PER IMP=  28.00
*S <<TOTAL FLOW IN CHAN UPSTRM OF 48" PIPE, AT AVESTRUZ ST
ADD HYD               106.31  1&14  14       .33400     2507.40     237.255     13.31897    2.300   11.730
*S  << PAAKWEREE BASIN A >>
COMPUTE NM HYD       BASIN_A   -     1       .05130     1020.90      32.264     11.79246    2.250   31.095 PER IMP=   5.00
*S <<TOTAL FLOW IN CHAN DNSTRM OF 48" PIPE, AT AVESTRUZ ST
ADD HYD               105E.1  1&14  14       .38530     3385.87     269.520     13.11573    2.300   13.731
ROUTE MCUNGE          106.33    14   13       .38530     3385.87     269.520     13.11573    2.300   13.731 CCODE =      .0
*S  LH BASIN NO. 50101
SEDIMENT BULK                                                                                             PK BF =    1.00
COMPUTE NM HYD        101.10   -     1       .15400     2726.09     108.509     13.21138    2.300   27.659 PER IMP=  42.00
ROUTE MCUNGE          201.10     1   10       .15400     2612.64     107.991     13.14820    2.400   26.508 CCODE =      .1
*S  LH BASIN NO. 50102
*S  << BASIN DIVIDED AT PAAKWEREE BNDRY, OLD AREA WAS 0.182 SQ MI >>
COMPUTE NM HYD        102.10   -     1       .12770     2603.30      92.365     13.56187    2.250   31.853 PER IMP=  49.00
*S <<FLOW INTO THE UPSTREAM END OF THE CULVERT UNDER PAVO ST. >>
ADD HYD               S_CULV  1&10   5       .28170     3853.85     200.356     13.33572    2.400   21.376
*S  << PAAKWEREE BASIN D >>
SEDIMENT BULK                                                                                             PK BF =    1.00
COMPUTE NM HYD       BASIN_D   -     1       .01440      294.45      10.416     13.56188    2.250   31.950 PER IMP=  49.00
ADD HYD                  D1  5& 1  15       .29610     3993.71     210.771     13.34673    2.400   21.075
*S <<FLOW IN CHAN DNSTRM OF 8X4 CBC>>
ADD HYD               106.35 15&13  15       .68140     6968.10     480.291     13.21610    2.300   15.978
ROUTE MCUNGE          106.40    15    3       .68140     6968.10     480.291     13.21610    2.300   15.978 CCODE =      .0
*S  << PAAKWEREE BASIN E >>
COMPUTE NM HYD       BASIN_E   -     1       .01440      294.45      10.416     13.56188    2.250   31.950 PER IMP=  49.00
ADD HYD               106.50  3& 1  15       .69580     7220.36     490.706     13.22325    2.300   16.214
```

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ROUTE MCUNGE          106.60   15    3        .69580      7220.36     490.706     13.22325    2.300   16.214 CCODE =      .0
*S  << PAAKWEREE BASIN B >>

                                FROM  TO                   PEAK        RUNOFF                TIME TO    CFS      PAGE =   3
                   HYDROGRAPH   ID    ID        AREA     DISCHARGE     VOLUME      RUNOFF     PEAK      PER
COMMAND          IDENTIFICATION  NO.  NO.     (SQ MI)     (CFS)       (AC-FT)    (INCHES)   (HOURS)   ACRE      NOTATION

COMPUTE NM HYD        BASIN_B    -     1        .06410      1310.22      46.364     13.56187    2.250   31.938 PER IMP=  49.00
*S  TOTAL FLOW IN PROPOSED N BORREGA CHANNEL AT PERDIZ ST>>
ADD HYD               107.10  1& 3    2        .75990      8342.90     537.070     13.25182    2.300   17.155
ROUTE MCUNGE          107.20    2     3        .75990      8342.90     537.070     13.25182    2.300   17.155 CCODE =      .0
*S  << PAAKWEREE BASIN F >>
COMPUTE NM HYD        BASIN_F    -     1        .03360       686.89      24.303     13.56187    2.250   31.942 PER IMP=  49.00
ADD HYD               107.30  1& 3    2        .79350      8931.37     561.373     13.26495    2.300   17.587
ROUTE MCUNGE          107.40    2     3        .79350      8931.37     561.373     13.26495    2.300   17.587 CCODE =      .0
*S  << PAAKWEREE BASIN G >>
COMPUTE NM HYD        BASIN_G    -     1        .03520       719.60      25.460     13.56188    2.250   31.942 PER IMP=  49.00
*S  TOTAL FLOW IN PROPOSED N BORREGA CHANNEL AT PARDAL ST>>
ADD HYD               107.50  1& 3    2        .82870      9639.13     586.833     13.27755    2.250   18.174
ROUTE MCUNGE          107.60    2     3        .82870      9639.13     586.833     13.27755    2.250   18.174 CCODE =      .0
*S  LH BASIN NO. 50108
*S   << HALF RESIDENTIAL/HALF GOLF COURSE PROPOSED (BELL PROPERTY) >>
SEDIMENT BULK                                                                                          PK BF =    1.00
COMPUTE NM HYD        108.00    -     1        .08130      1192.66      53.700     12.38461    2.350   22.922 PER IMP=  25.00
*S << TOTAL FLOW DNSTREAM OF PAAKWEREE IN PROPOSED N BORREGA CHANNEL>>
ADD HYD               108.30  1& 3    2        .91000     10643.19     640.532     13.19778    2.300   18.275
ROUTE MCUNGE          108.40    2     3        .91000     10509.22     640.114     13.18916    2.350   18.045 CCODE =      .1
*S  LH BASIN NO. 50109
COMPUTE NM HYD        109.10    -     1        .23440      3727.68     169.542     13.56187    2.300   24.849 PER IMP=  49.00
*S << FLOW IN PROPOSED N BORREGA ARROYO CHANNEL AT AP 109
ADD HYD               109.30  1& 3    3       1.14440     14215.45     809.656     13.26551    2.300   19.409
*S ROUTE FLOW ABOVE AP109 TO CONFLUENCE WITH BASIN 50201
*S <<ASSUMED CONC CHANNEL SECTION, 2:1 SIDE SLOPES, 12' BOTTOM
ROUTE MCUNGE          109.50    3     4       1.14440     14215.45     809.656     13.26551    2.300   19.409 CCODE =      .0
*S  LH BASIN NO. 50110
*S <<CHANGED TO HALF RESID/HALF GOLF COURSE PROPOSED (BELL PROPERTY) >>
COMPUTE NM HYD        110.00    -     1        .10180      2034.61      67.240     12.38461    2.250   31.229 PER IMP=  25.00
*S  <<ADD 50110 TO CHANNEL.  TOTAL CHANNEL FLOW TO DAM>>
ADD HYD               110.10  1& 4    2       1.24620     15965.39     876.896     13.19355    2.300   20.018
*S LH BASIN 50201
COMPUTE NM HYD        201.00    -     1        .14730      2197.86     106.542     13.56187    2.350   23.314 PER IMP=  49.00
*S << BORREGA DIVERSION STORM DRAIN >>
DIVIDE HYD           201DIV1     1     1        .05988       230.00      43.311     13.56188    2.150    6.002
                     201DIV2   and    21        .08742      1967.86      63.231     13.56188    2.350   35.173
*S  ADD 50201 TO DAM
ADD HYD               110.15  1& 2    4       1.30608     16195.39     920.207     13.21043    2.300   19.375
*S  <<BASIN NO. 70102 (B-4 EAST)  44 ACRES>>
COMPUTE NM HYD        B4EAST    -     6        .06770      1175.35      45.171     12.51057    2.300   27.127 PER IMP=  16.00
*S <<ROUTE B-4 EAST THROUGH B-6>>
ROUTE MCUNGE           B4E.1    6     5        .06770      1169.13      45.262     12.53560    2.350   26.983 CCODE =      .2
*S  <<BASIN NO. 70103 (B-6)  >>
*S  <<HALF RESID/HALF GOLF COURSE PROPOSED (BELL PROPERTY) >>
COMPUTE NM HYD             B6    -     1        .28690      4168.26     189.501     12.38461    2.350   22.701 PER IMP=  25.00
*S <<TOTAL B-4 EAST AND B-6>>
ADD HYD                  B6.1  1& 5    7        .35460      5337.39     234.763     12.41344    2.350   23.519
*S << PROPOSED FUTURE STORM DRAIN FROM BELL PROPERTY TO DAM >>
DIVIDE HYD           B6.1DIV1     7     7        .11826       450.00      78.293     12.41344    2.150    5.946
                     B6.1DIV2   and    22        .23634      4887.39     156.470     12.41344    2.350   32.312
*S << TOTAL INTO BORREGA DAM >>
ADD HYD               110.20  7& 4    4       1.42434     16645.39     998.500     13.14426    2.300   18.260
*S
*S
*S ****************************************************
```

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*S  BORREGA DAM PHASE "B' PER WCEA DESIGN
*S                        OUTFLOW      STORAGE      ELEV
*S                          0            0          4985
*S                          0.4          2.02       4986

                                FROM  TO                      PEAK          RUNOFF                TIME TO    CFS       PAGE =    4
                     HYDROGRAPH  ID   ID          AREA     DISCHARGE      VOLUME      RUNOFF        PEAK     PER
COMMAND            IDENTIFICATION  NO.  NO.      (SQ MI)     (CFS)        (AC-FT)    (INCHES)     (HOURS)   ACRE      NOTATION

*S                          4            7.94       4987
*S                          8           14.10       4988
*S                         14           20.51       4989
*S                         24           27.17       4990
*S                         36           34.08       4991
*S                         49           41.78       4992
*S                         69           50.84       4993
*S                        163           61.26       4994
*S                        174           73.20       4995
*S                        184           86.10       4996
*S                        191           99.30       4997
*S                        225          100.64       4997.1
*S                       1252          112.80       4998
*S                       3176          126.55       4999
*S                       5667          140.56       5000
*S                       8620          154.85       5001
*S                      11966          169.29       5002
*S                      15667          184.32       5003
ROUTE RESERVOIR     BPOND.OUT    4   99        1.42434     14948.60     984.919     12.96548     2.400    16.399 AC-FT=  181.403
*S HYD=BPOND.OUT IS *****AP 51*****
ROUTE MCUNGE          110.50   99    4        1.42434     14571.53     985.346     12.97110     2.450    15.985 CCODE =      .2
*S  LH BASIN NO. 50111
 COMPUTE NM HYD        111.00   -     2         .03790       769.73      26.826     13.27138     2.250    31.733 PER IMP=  45.00
 ADD HYD           BR_DMP1.HYD  4& 2   2        1.46224     14858.95    1012.172     12.97888     2.450    15.878
 *S HYD=BR_DMP1.HYD IS *****AP 52*****
 FINISH
(s10H
```

BORREGA BASIN
MANAGEMENT PLAN

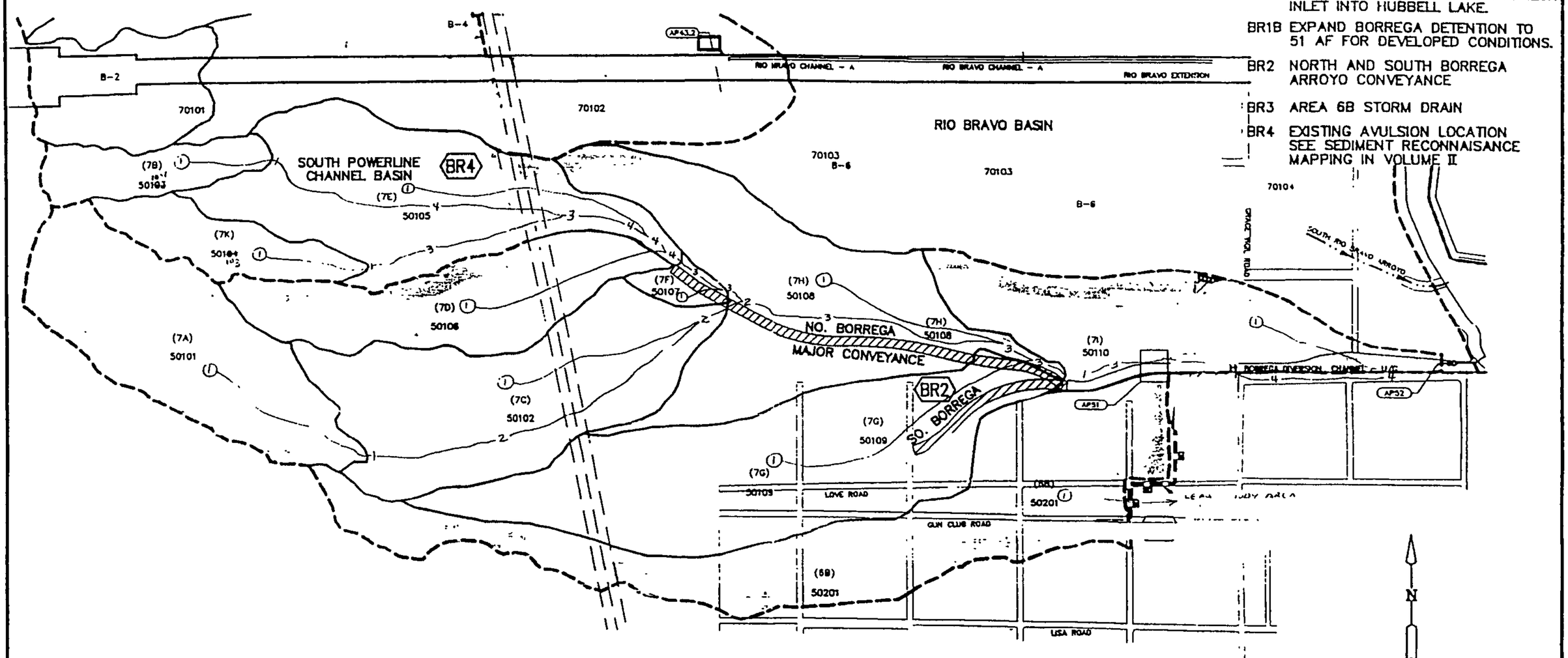
BR1A BORREGA DETENTION FACILITY 14 AF LIMIT FLOW FOR EXISTING CONDITIONS TO 225cfs AT BORREGA INLET INTO HUBBELL LAKE.

BR1B EXPAND BORREGA DETENTION TO 51 AF FOR DEVELOPED CONDITIONS.

BR2 NORTH AND SOUTH BORREGA ARROYO CONVEYANCE

BR3 AREA 6B STORM DRAIN

BR4 EXISTING AVULSION LOCATION SEE SEDIMENT RECONNAISANCE MAPPING IN VOLUME II



LEGEND

- BASIN BOUNDARIES
- PLATTED EASEMENT/ROW
- SUBBASIN BOUNDARIES
- (AP01) HYDROLOGIC ANALYSIS POINT
- BASIN BOUNDARY THIS SHEET
- 60110 SUBBASIN ID NUMBER
- (SY1) PROJECT ID NUMBER

0 500' 1000' 2000'

1" = 1000'±

AMOLE-HUBBELL D.M.P

BORREGA BASIN
MANAGEMENT PLAN

FIGURE NO. III-12

PAAKWEREE VILLAGE DRAINAGE REPORT

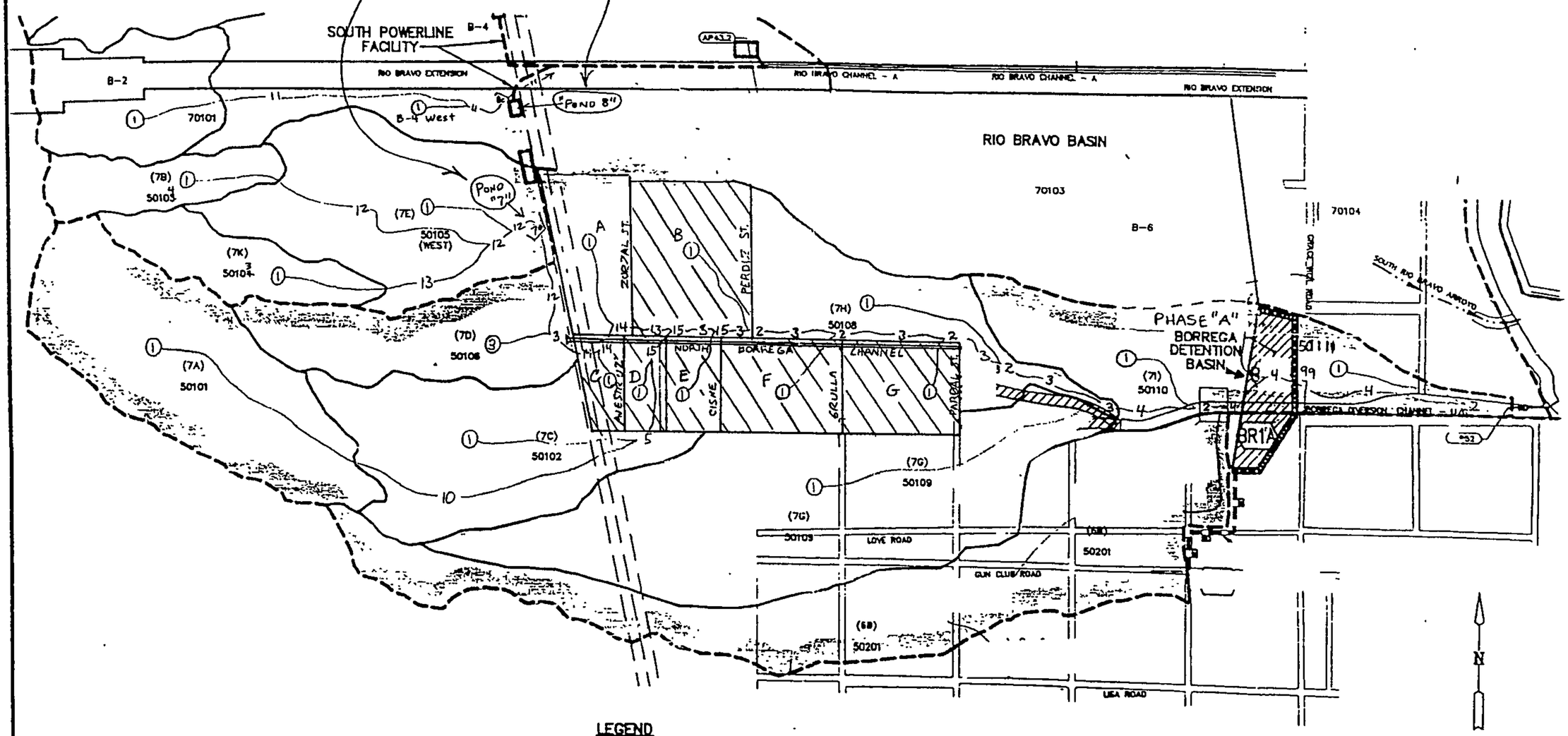
AHYMO MAP
EXISTING CONDITIONS

DESIGN	DRAWN		DATE
NM	NM	WILSON & COMPANY, 4775 INDIAN SCHOOL ROAD NE, SUITE 200, ALBUQUERQUE NEW MEXICO 87110, (505) 254-4000	AUG 1999
FILE NO 98088			1 OF 3

LEEDSHILL-HERKENHOFF, INC.

NOTE: POST-PROJECT CONDITIONS PRECEDE INTERIM CONDITIONS, WITH SAME RUNOFF DIRECTIONS.

HOWEVER, IN POST-PROJECT CONDITIONS, THE ONLY FULLY DEVELOPED BASINS ARE PAAKWEREE, SHOWN AS ▨.
POND 7 AND POND 8 ARE NOT BUILT.



LEGEND

- DMP IMPROVEMENTS
- BASIN BOUNDARIES
- PLATTED EASEMENT/ROW
- SUBBASIN BOUNDARIES
- (AP01) HYDROLOGIC ANALYSIS POINT
- BASIN BOUNDARY THIS SHEET
- 60110 SUBBASIN ID NUMBER
- (SV2) PROJECT ID NUMBER

0 500' 1000' 2000'
1" = 1000'±

AMOLE-HUBBELL D.M.P.

BORREGA BASIN MANAGEMENT PLAN

FIGURE NO. III-12

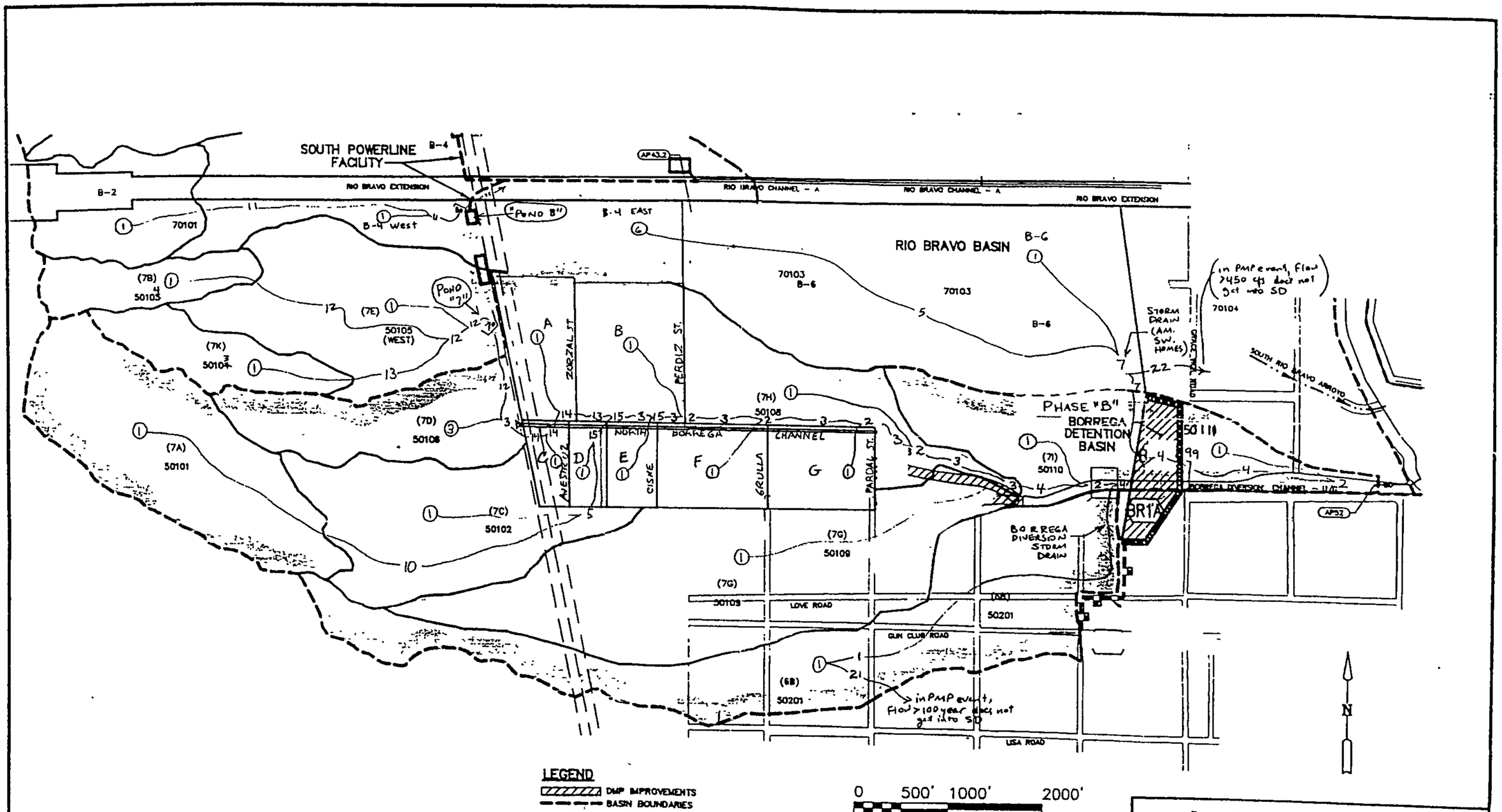
PAAKWEREE VILLAGE DRAINAGE REPORT

AHYMO MAP
INTERIM CONDITIONS

DESIGN	DRAWN		DATE
NM	NM	WILSON & COMPANY, 4775 INDIAN SCHOOL ROAD NE, SUITE 200, ALBUQUERQUE, NEW MEXICO 87110, (505) 254-4000	AUG 1999
FILE NO 98088			2 OF 3

LEEDSHILL-HERKENHOFF, INC.

P:\95043\95043_32\DWG\C\BR-BASIN.dwg\12-17-98 KHK



LEGEND

- DMP IMPROVEMENTS
- BASIN BOUNDARIES
- PLATTED EASEMENT/ROW
- SUBBASIN BOUNDARIES
- (APXX) HYDROLOGIC ANALYSIS POINT
- BASIN BOUNDARY THIS SHEET
- 60110 SUBBASIN ID NUMBER
- (SVX) PROJECT ID NUMBER

0 500' 1000' 2000'

1" = 1000'±

AMOLE-HUBBELL D.M.P.

BORREGA BASIN MANAGEMENT PLAN

FIGURE NO. III-12

PAAKWEREE VILLAGE DRAINAGE REPORT

AHYMO MAP
FUTURE CONDITIONS

DESIGN	DRAWN		DATE
NM	NM	WILSON & COMPANY, 4775 INDIAN SCHOOL ROAD NE, SUITE 200, ALBUQUERQUE, NEW MEXICO 87110, (505) 254-4000	AUG 1999
FILE NO. 98088			3 OF 3

LEEDSHILL-HERKENHOFF, INC.

P:\95043\95043_32\DWG\C\BR-BASIN.dwg\12-17-98 KHK

APPENDIX C

AHYMO OUTPUT
DEVELOPED CONDITIONS

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AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -                        - VERSION:  1997.02d      RUN DATE (MON/DAY/YR) =01/08/2007
INPUT FILE = D:\MYDOCU~1\CEJAVI~1\CEJAVI~1\CV6.DAT                                       USER NO.= AHYMO-I-9702dGoodwinM-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

START                                                                                                      TIME=       .00
*S
*S      CEJA VISTA SUBDIVISION CITY PORTION
*S
*S
*S 100-YR, 24-HR STORM WITH SEDIMENT
*S FILE NAME: CEJA VISTA DEV.DAT  (DEVELOPED CONDITIONS)
*S BY: SCOTT MEDINA
*S LAST REVISION: 10-02-06
*S*************************************************************************
*S THE PURPOSE OF THIS MODEL IS TO CALCULATE THE RUNOFF FROM THE CEJA VISTA
*S SUBDIVISION FOR USE IN DETERMINATION OF DRAINAGE REQUIREMENTS FOR THE DEVELOP
*S FLOW FROM THIS BASIN IS CONVEYED TO THE AMOLE DETENTION FACILITY
*S VIA THE AMOLE ARROYO.
*S
*S*********************************************************************
*S ANALYSIS ASSUMPTIONS:
*S*********************************************************************
*S 1. A BULKING FACTOR HAS BEEN ADDED TO EACH UNDEVELOPED SUB-BASIN.  THE BULKIN
*S    FACTOR IS BASED ON LAND TREATMENT AND SLOPE.
*S
*S100 YEAR 24HR STORM EXISTING CONDITION
RAINFALL  TYPE= 2                                                                                          RAIN24=   2.660
*S CALCULATE THE FLOW FROM BASIN APS 104.
*S BASIN 104 IS MODELED AS UNDEVELOPED, BULK FLOWS 6.0%
SEDIMENT BULK                                                                                              PK BF =    1.06
COMPUTE NM HYD        APS104   -     1        .10150        92.63       2.573       .47533    1.500    1.426 PER IMP=    .00
*S CALCULATE THE FLOW FROM BASIN 103 (UNIT 3).
*S BASIN 103 MODELED AS DEVELOPED
SEDIMENT BULK                                                                                              PK BF =    1.00
COMPUTE NM HYD        103.00   -     2        .04200        87.56       3.415      1.52461    1.500    3.257 PER IMP=  44.00
*S BASIN 103A (WESTSIDE OF 98TH) MODELED AS DEVELOPED
SEDIMENT BULK                                                                                              PK BF =    1.00
COMPUTE NM HYD        101.00   -     3        .00020          .51        .022      2.10488    1.500    4.053 PER IMP=  80.00
*S ADD BASINS 103 AND 103A.
ADD HYD               103.20  3& 2   4        .04220        88.07       3.437      1.52728    1.500    3.261
*S*******************************************************
*S BASIN 102A (EASTSIDE 98th/COMMERCIAL) MODELED AS DEVELOPED
SEDIMENT BULK                                                                                              PK BF =    1.00
COMPUTE NM HYD        103.10   -     5        .01695        42.62       1.903      2.10487    1.500    3.929 PER IMP=  80.00
*S BASIN 102C(OPEN SPACE) MODELED AS UNDEVELOPED, BULK FLOWS 6%
SEDIMENT BULK                                                                                              PK BF =    1.06
COMPUTE NM HYD        102.00   -     6        .00600         5.74        .162       .50684    1.500    1.495 PER IMP=    .00
*S ADD BASIN 102A TO BASIN 102C.
ADD HYD               102.10  6& 5   7        .02295        48.36       2.065      1.68707    1.500    3.292
*S CALCULATE THE FLOW FROM BASIN 102 (UNIT 2).
*S BASIN 102 MODELED AS DEVELOPED
SEDIMENT BULK                                                                                              PK BF =    1.00
COMPUTE NM HYD        102.00   -     8        .05700       117.47       4.537      1.49238    1.500    3.220 PER IMP=  42.00
*S ADD BASIN 102A TO BASIN 102.
ADD HYD               102.10  7& 8   9        .07995       165.83       6.602      1.54826    1.500    3.241
*S CALCULATE THE FLOW FROM BASIN 102D.
*S BASIN 102D (UNSER BLVD) MODELED AS DEVELOPED
SEDIMENT BULK                                                                                              PK BF =    1.00
COMPUTE NM HYD        101.00   -    10        .00049         1.24        .055      2.10488    1.500    3.973 PER IMP=  80.00
*S ADD BASIN 102D TO BASIN 102.
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                                FROM  TO                    PEAK        RUNOFF                TIME TO    CFS      PAGE =    2
                   HYDROGRAPH    ID   ID        AREA     DISCHARGE     VOLUME      RUNOFF      PEAK     PER
COMMAND          IDENTIFICATION  NO.  NO.     (SQ MI)      (CFS)       (AC-FT)    (INCHES)   (HOURS)   ACRE      NOTATION

ADD HYD                 102.10 10& 9  11        .08044       167.06       6.656     1.55162    1.500    3.245
*S*****************************************************
*S BASIN 103B (SOUTH DENNIS-CHAVEZ) MODELED AS FUTURE CONDITIONS, BULK FLOWS 6%
SEDIMENT BULK                                                                                           PK BF =    1.06
COMPUTE NM HYD          103.30   -    12        .01900        40.35       1.742     1.71860    1.500    3.318 PER IMP=  50.00
*S ROUTE FLOW FROM BASIN 103B THROUGH 24" RCP THROUGH UNIT 2.
ROUTE                   103.20   12   13        .01900        35.90       1.742     1.71863    1.650    2.952
*S BASIN 102B (SOUTH DENNIS-CHAVEZ) MODELED AS FUTURE CONDITIONS
SEDIMENT BULK                                                                                           PK BF =    1.00
COMPUTE NM HYD          102.30   -    14        .01270        27.39       1.098     1.62133    1.500    3.370 PER IMP=  50.00
*S ADD BASIN 102B TO BASIN 103B.
ADD HYD                 102.10 14&13  15        .03170        55.60       2.840     1.67962    1.550    2.741
*S ROUTE FLOW FROM BASIN 102 COMBINED FLOW THROUGH 24" RCP THROUGH UNIT 1.
ROUTE                   102.20   15   16        .03170        53.92       2.840     1.67964    1.600    2.658
*S*****************************************************
*S BASIN 101 (UNIT 1) MODELED AS DEVELOPED
SEDIMENT BULK                                                                                           PK BF =    1.00
COMPUTE NM HYD          101.10   -    17        .05074        99.12       3.646     1.34731    1.500    3.052 PER IMP=  33.00
ROUTE RESERVOIR       POND.101   17   18        .05074         4.99       3.414     1.26172    2.250     .154 AC-FT=    2.742
*S ADD BASIN 101 TO DENNIS-CHAVEZ BASINS.
ADD HYD                 101.20 18&16  19        .08244        56.69       6.254     1.42241    1.600    1.074
*S ROUTE FLOW FROM BASIN 101.1 COMBINED FLOW THROUGH 30" RCP THROUGH UNIT 1.
ROUTE                   102.20   19   20        .08244        54.54       6.249     1.42135    1.650    1.034
*S BASIN 101B (SOUTH DENNIS-CHAVEZ) MODELED AS FUTURE CONDITIONS
SEDIMENT BULK                                                                                           PK BF =    1.00
COMPUTE NM HYD          101.30   -    21        .00346         7.47        .299     1.62133    1.500    3.375 PER IMP=  50.00
*S ADD BASIN 101B TO BASIN 101.
ADD HYD                 101.40 21&20  22        .08590        58.64       6.549     1.42940    1.650    1.067
FINISH
```

```
START                0.0 HOURS   PC=0  PL=-1
*S
*S      CEJA VISTA SUBDIVISION CITY PORTION
*S
*S
*S 100-YR, 24-HR STORM WITH SEDIMENT
*S FILE NAME: CEJA VISTA DEV.DAT  (DEVELOPED CONDITIONS)
*S BY: SCOTT MEDINA
*S LAST REVISION: 10-02-06
*S*****************************************************************
*S THE PURPOSE OF THIS MODEL IS TO CALCULATE THE RUNOFF FROM THE CEJA VISTA
*S SUBDIVISION FOR USE IN DETERMINATION OF DRAINAGE REQUIREMENTS FOR THE DEVELOPMENT.
*S FLOW FROM THIS BASIN IS CONVEYED TO THE AMOLE DETENTION FACILITY
*S VIA THE AMOLE ARROYO.
*S
*S*****************************************************************
*S ANALYSIS ASSUMPTIONS:
*S*****************************************************************
*S 1. A BULKING FACTOR HAS BEEN ADDED TO EACH UNDEVELOPED SUB-BASIN.  THE BULKING
*S    FACTOR IS BASED ON LAND TREATMENT AND SLOPE.
*S
*****************************************************************
*****************************************************************
*S100 YEAR 24HR STORM EXISTING CONDITION
RAINFALL             TYPE=2  0.0  1.87  2.20  2.66    DT=0.05
** 10 YEAR 24HR STORM EXISTING CONDITION
**RAINFALL           TYPE=2  0.0  1.25  1.47  1.77    DT=0.05
**  2 YEAR 24HR STORM EXISTING CONDITION
**RAINFALL           TYPE=2  0.0  0.74  0.95  1.15    DT=0.05
*****************************************************************

*S CALCULATE THE FLOW FROM BASIN APS-104.
*S BASIN 104 IS MODELED AS UNDEVELOPED, BULK FLOWS 6.0%
SEDIMENT BULK        CODE=1  BF=1.06
COMPUTE NM HYD       ID=1  HYD=APS104  AREA=0.1015 SQ MI
                     A=95  B=5  C=0  D=0
                     TP=0.133   MASSRAIN=-1
PRINT HYD            ID=1  CODE=1
*S CALCULATE THE FLOW FROM BASIN 103 (UNIT-3).
*S BASIN 103 MODELED AS DEVELOPED
SEDIMENT BULK        CODE=1  BF=1.00
COMPUTE NM HYD       ID=2  HYD=103  AREA=0.042 SQ MI
                     A=0  B=28  C=28  D=44
                     TP=0.133   MASSRAIN=-1
PRINT HYD            ID=2  CODE=1
*S BASIN 103A (WESTSIDE OF 98TH) MODELED AS DEVELOPED
SEDIMENT BULK        CODE=1  BF=1.00
COMPUTE NM HYD       ID=3  HYD=101  AREA=0.0.00195 SQ MI
                     A=0  B=10  C=10  D=80
                     TP=0.133   MASSRAIN=-1
PRINT HYD            ID=3  CODE=1
*S ADD BASINS 103 AND 103A.
ADD HYD              ID=4  HYD=103.2  I=3  II=2
PRINT HYD            ID=4  CODE=1
*S*****************************************************************
*S BASIN 102A (EASTSIDE 98th/COMMERCIAL) MODELED AS DEVELOPED
SEDIMENT BULK        CODE=1  BF=1.00
COMPUTE NM HYD       ID=5  HYD=103.1  AREA=0.01695 SQ MI
                     A=0  B=10  C=10  D=80
                     TP=0.133   MASSRAIN=-1
PRINT HYD            ID=5  CODE=1
*S BASIN 102C (OPEN SPACE) MODELED AS UNDEVELOPED, BULK FLOWS 6%
SEDIMENT BULK        CODE=1  BF=1.06
COMPUTE NM HYD       ID=6  HYD=102  AREA=0.006 SQ MI
                     A=90  B=0  C=10  D=0
                     TP=0.133   MASSRAIN=-1
PRINT HYD            ID=6  CODE=1
*S ADD BASIN 102A TO BASIN 102C.
ADD HYD              ID=7  HYD=102.1  I=6  II=5
PRINT HYD            ID=7  CODE=1
*S CALCULATE THE FLOW FROM BASIN 102 (UNIT 2).
*S BASIN 102 MODELED AS DEVELOPED
SEDIMENT BULK        CODE=1  BF=1.00
COMPUTE NM HYD       ID=8  HYD=102  AREA=0.057 SQ MI
                     A=0  B=29  C=29  D=42
                     TP=0.133   MASSRAIN=-1
PRINT HYD            ID=8  CODE=1
*S ADD BASIN 102A TO BASIN 102.
ADD HYD              ID=9  HYD=102.1  I=7  II=8
PRINT HYD            ID=9  CODE=1
*S CALCULATE THE FLOW FROM BASIN 102D.
*S BASIN 102D (UNSER BLVD) MODELED AS DEVELOPED
SEDIMENT BULK        CODE=1  BF=1.00
COMPUTE NM HYD       ID=10  HYD=101  AREA=0.0.00486 SQ MI
                     A=0  B=10  C=10  D=80
                     TP=0.133   MASSRAIN=-1
PRINT HYD            ID=10  CODE=1
*S ADD BASIN 102D TO BASIN 102.
ADD HYD              ID=11  HYD=102.1  I=10  II=9
PRINT HYD            ID=11  CODE=1
*S*****************************************************************
*S BASIN 103B (SOUTH DENNIS-CHAVEZ) MODELED AS FUTURE CONDITIONS, BULK FLOWS 6%
```

6 HR ?

APS = 104, 1

U3 = 103, 2

98W = 101, 3

FLOW @ U3 — U3 + 98W = 103.2 (4)

98E = 103.1, 5

O.S = 102, 6

98E + OS = 102.1, (7)

U2 = 102, 8 (HYD # SAME AS OPEN SP.)

U2 + 98E + OS = 102.1 (9)

UNSER 101, 10

U2 + 98E + OS + UNSER (11)

```
SEDIMENT BULK              CODE=1  BF=1.06
COMPUTE NM HYD             ID=12  HYD=103.3  AREA=0.019 SQ MI
                           A=0  B=25  C=25  D=50
                           TP=0.15   MASSRAIN=-1
PRINT HYD                  ID=12  CODE=1
*S-ROUTE FLOW FROM BASIN 103B THROUGH 24" RCP THROUGH UNIT 2.
COMPUTE RATING CURVE       CID=1  VN=1  CODE=-1  S=0.02 D=24 N=0.014
COMPUTE TRAVEL TIME        ID=13  RN=1  NVS=1  L=2800  S=0.02
ROUTE                      ID=13  HYD=103.2  INFLOW ID=12  DT=0.0
PRINT HYD                  ID=13  CODE=1
*S BASIN 102B (SOUTH DENNIS-CHAVEZ) MODELED AS FUTURE CONDITIONS
SEDIMENT BULK              CODE=1  BF=1.00
COMPUTE NM HYD             ID=14  HYD=102.3  AREA=0.0127 SQ MI
                           A=0  B=25  C=25  D=50
                           TP=0.133   MASSRAIN=-1
PRINT HYD                  ID=14  CODE=1
*S ADD BASIN 102B TO BASIN 103B.
ADD HYD                    ID=15  HYD=102.1  I=14  II=13
PRINT HYD                  ID=15  CODE=1
*S ROUTE FLOW FROM BASIN 102 COMBINED FLOW THROUGH 24" RCP THROUGH UNIT 1.
COMPUTE RATING CURVE       CID=1  VN=1  CODE=-1  S=0.02 D=24 N=0.014
COMPUTE TRAVEL TIME        ID=16  RN=1  NVS=1  L=900  S=0.02
ROUTE                      ID=16  HYD=102.2  INFLOW ID=15  DT=0.0
PRINT HYD                  ID=16  CODE=1
*S*************************************************************
*S BASIN 101-(UNIT 1) MODELED AS DEVELOPED
SEDIMENT BULK              CODE=1  BF=1.00
COMPUTE NM HYD             ID=17  HYD=101.1  AREA=0.05074 SQ MI
                           A=0  B=33.5  C=33.5  D=33
                           TP=0.133   MASSRAIN=-1
PRINT HYD                  ID=17  CODE=1
ROUTE RESERVOIR            ID=18 HYD NO=POND.101 INFLOW ID=17  CODE=10
```

TRACK S

OUTFLOW(CFS)	STORAGE(AC-FT)	DEPTH(FT)
0.00	0.00	90.00
0.50	0.46	91.00
1.50	0.96	92.00
2.50	1.51	93.00
3.75	2.10	94.00
4.75	2.59	94.75
5.00	2.75	95.00
50.00	3.09	95.50

```
PRINT HYD                ID=18 CODE=10
*S ADD BASIN 101 TO DENNIS-CHAVEZ BASINS.
ADD HYD                    ID=19  HYD=101.2  I=18  II=16
PRINT HYD                  ID=19  CODE=1
*S ROUTE FLOW FROM BASIN 101.1 COMBINED FLOW THROUGH 30" RCP THROUGH UNIT 1.
COMPUTE RATING CURVE       CID=1  VN=1  CODE=-1  S=0.015 D=30 N=0.014
COMPUTE TRAVEL TIME        ID=20  RN=1  NVS=1  L=2000  S=0.025
ROUTE                      ID=20  HYD=102.2  INFLOW ID=19  DT=0.0
PRINT HYD                  ID=20  CODE=1
*S BASIN 101B (SOUTH DENNIS-CHAVEZ) MODELED AS FUTURE CONDITIONS
SEDIMENT BULK              CODE=1  BF=1.00
COMPUTE NM HYD             ID=21  HYD=101.3  AREA=0.00346 SQ MI
                           A=0  B=25  C=25  D=50
                           TP=0.133   MASSRAIN=-1
PRINT HYD                  ID=21  CODE=1
*S ADD BASIN 101B TO BASIN 101.
ADD HYD                    ID=22  HYD=101.4  I=21  II=20
PRINT HYD                  ID=22  CODE=1

PUNCH HYD                  ID=22
FINISH
```

DEN-CHV. W 103.3, R
DC SD, NOT U2
DC (12) ROUTED DC SD INTO 103.2 (13)
DC E 102.3 (14)
D.C. FLOWS COMBINED (15)
COMBINED DC FLOWS (15) ROUTED THROUGH U1 INTO ??? TR. S. (16)
U1
DC. SD NOT U1
ONLY UNIT 1 Q INTO POND
ADDS COMB. DC FLOW w/RESERVOIR ??

```
(s16.66H

     AHYMO PROGRAM (AHYMO_97) -                          - Version:  1997.02d
          RUN DATE (MON/DAY/YR) = 01/08/2007
          START TIME (HR:MIN:SEC) = 07:40:12     USER NO.= AHYMO-I-9702dGoodwinM-AH
          INPUT FILE = D:\MYDOCU~1\CEJAVI~1\CEJAVI~1\CV6.DAT

START                0.0 HOURS   PC=0  PL=-1
*S
*S      CEJA VISTA SUBDIVISION CITY PORTION
*S
*S
*S 100-YR, 24-HR STORM WITH SEDIMENT
*S FILE NAME: CEJA VISTA DEV.DAT  (DEVELOPED CONDITIONS)
*S BY: SCOTT MEDINA
*S LAST REVISION: 10-02-06
*S*************************************************************************
*S THE PURPOSE OF THIS MODEL IS TO CALCULATE THE RUNOFF FROM THE CEJA VISTA
*S SUBDIVISION FOR USE IN DETERMINATION OF DRAINAGE REQUIREMENTS FOR THE DEVELOP
*S FLOW FROM THIS BASIN IS CONVEYED TO THE AMOLE DETENTION FACILITY
*S VIA THE AMOLE ARROYO.
*S
*S*************************************************************************
*S ANALYSIS ASSUMPTIONS:
*S*************************************************************************
*S 1. A BULKING FACTOR HAS BEEN ADDED TO EACH UNDEVELOPED SUB-BASIN.  THE BULKIN
*S    FACTOR IS BASED ON LAND TREATMENT AND SLOPE.
*S
*************************************************************************
*************************************************************************
*S100 YEAR 24HR STORM EXISTING CONDITION
RAINFALL              TYPE=2  0.0  1.87  2.20  2.66    DT=0.05

                COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                DT =    .050000 HOURS       END TIME =    24.000000 HOURS
                   .0000   .0025   .0050   .0076   .0103   .0131   .0160
                   .0190   .0222   .0254   .0289   .0324   .0362   .0401
                   .0443   .0487   .0534   .0584   .0637   .0695   .0758
                   .0837   .0924   .1176   .1773   .2798   .4384   .6668
                   .9790  1.2253  1.3366  1.4295  1.5109  1.5836  1.6495
                  1.7096  1.7648  1.8156  1.8624  1.9057  1.9458  1.9548
                  1.9631  1.9708  1.9780  1.9848  1.9912  1.9973  2.0031
                  2.0087  2.0140  2.0191  2.0240  2.0287  2.0333  2.0377
                  2.0420  2.0462  2.0502  2.0542  2.0580  2.0617  2.0653
                  2.0689  2.0724  2.0757  2.0791  2.0823  2.0855  2.0886
                  2.0916  2.0946  2.0976  2.1005  2.1033  2.1061  2.1088
                  2.1115  2.1142  2.1168  2.1193  2.1219  2.1244  2.1268
                  2.1293  2.1316  2.1340  2.1363  2.1386  2.1409  2.1431
                  2.1453  2.1475  2.1497  2.1518  2.1539  2.1560  2.1580
                  2.1601  2.1621  2.1641  2.1660  2.1680  2.1699  2.1718
                  2.1737  2.1756  2.1774  2.1793  2.1811  2.1829  2.1847
                  2.1864  2.1882  2.1899  2.1916  2.1933  2.1950  2.1967
                  2.1984  2.2000  2.2020  2.2039  2.2059  2.2078  2.2097
                  2.2117  2.2136  2.2155  2.2174  2.2193  2.2212  2.2231
                  2.2249  2.2268  2.2287  2.2305  2.2324  2.2342  2.2361
                  2.2379  2.2398  2.2416  2.2434  2.2452  2.2470  2.2488
                  2.2506  2.2524  2.2542  2.2559  2.2577  2.2595  2.2612
                  2.2630  2.2647  2.2665  2.2682  2.2700  2.2717  2.2734
                  2.2751  2.2768  2.2785  2.2802  2.2819  2.2836  2.2853
                  2.2870  2.2887  2.2903  2.2920  2.2937  2.2953  2.2970
                  2.2986  2.3002  2.3019  2.3035  2.3051  2.3068  2.3084
                  2.3100  2.3116  2.3132  2.3148  2.3164  2.3180  2.3196
                  2.3212  2.3227  2.3243  2.3259  2.3274  2.3290  2.3305
                  2.3321  2.3336  2.3352  2.3367  2.3383  2.3398  2.3413
                  2.3428  2.3444  2.3459  2.3474  2.3489  2.3504  2.3519
                  2.3534  2.3549  2.3563  2.3578  2.3593  2.3608  2.3622
                  2.3637  2.3652  2.3666  2.3681  2.3695  2.3710  2.3724
                  2.3739  2.3753  2.3767  2.3782  2.3796  2.3810  2.3824
                  2.3839  2.3853  2.3867  2.3881  2.3895  2.3909  2.3923
                  2.3937  2.3951  2.3965  2.3978  2.3992  2.4006  2.4020
                  2.4033  2.4047  2.4061  2.4074  2.4088  2.4101  2.4115
                  2.4128  2.4142  2.4155  2.4168  2.4182  2.4195  2.4208
                  2.4222  2.4235  2.4248  2.4261  2.4274  2.4287  2.4300
                  2.4314  2.4327  2.4340  2.4352  2.4365  2.4378  2.4391
                  2.4404  2.4417  2.4430  2.4442  2.4455  2.4468  2.4480
                  2.4493  2.4506  2.4518  2.4531  2.4543  2.4556  2.4568
                  2.4581  2.4593  2.4606  2.4618  2.4630  2.4643  2.4655
                  2.4667  2.4680  2.4692  2.4704  2.4716  2.4728  2.4740
                  2.4753  2.4765  2.4777  2.4789  2.4801  2.4813  2.4825
                  2.4837  2.4849  2.4860  2.4872  2.4884  2.4896  2.4908
                  2.4919  2.4931  2.4943  2.4955  2.4966  2.4978  2.4990
                  2.5001  2.5013  2.5024  2.5036  2.5047  2.5059  2.5070
                  2.5082  2.5093  2.5105  2.5116  2.5127  2.5139  2.5150
                  2.5161  2.5172  2.5184  2.5195  2.5206  2.5217  2.5229
                  2.5240  2.5251  2.5262  2.5273  2.5284  2.5295  2.5306
                  2.5317  2.5328  2.5339  2.5350  2.5361  2.5372  2.5383
                  2.5394  2.5404  2.5415  2.5426  2.5437  2.5448  2.5458
                  2.5469  2.5480  2.5490  2.5501  2.5512  2.5522  2.5533
                  2.5544  2.5554  2.5565  2.5575  2.5586  2.5596  2.5607
                  2.5617  2.5628  2.5638  2.5649  2.5659  2.5669  2.5680
                  2.5690  2.5700  2.5711  2.5721  2.5731  2.5741  2.5752
                  2.5762  2.5772  2.5782  2.5792  2.5803  2.5813  2.5823
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2.5833  2.5843  2.5853  2.5863  2.5873  2.5883  2.5893
2.5903  2.5913  2.5923  2.5933  2.5943  2.5953  2.5963
2.5973  2.5982  2.5992  2.6002  2.6012  2.6022  2.6031
2.6041  2.6051  2.6061  2.6070  2.6080  2.6090  2.6099
2.6109  2.6119  2.6128  2.6138  2.6148  2.6157  2.6167
2.6176  2.6186  2.6195  2.6205  2.6214  2.6224  2.6233
2.6243  2.6252  2.6261  2.6271  2.6280  2.6290  2.6299
2.6308  2.6318  2.6327  2.6336  2.6346  2.6355  2.6364
2.6373  2.6383  2.6392  2.6401  2.6410  2.6419  2.6428
2.6438  2.6447  2.6456  2.6465  2.6474  2.6483  2.6492
2.6501  2.6510  2.6519  2.6528  2.6537  2.6546  2.6555
2.6564  2.6573  2.6582  2.6591  2.6600

** 10 YEAR 24HR STORM EXISTING CONDITION
**RAINFALL            TYPE=2  0.0  1.25  1.47  1.77    DT=0.05
**  2 YEAR 24HR STORM EXISTING CONDITION
**RAINFALL            TYPE=2  0.0  0.74  0.95  1.15    DT=0.05
*************************************************************************

*S CALCULATE THE FLOW FROM BASIN APS 104.
*S BASIN 104 IS MODELED AS UNDEVELOPED, BULK FLOWS 6.0%
SEDIMENT BULK           CODE=1  BF=1.06
COMPUTE NM HYD          ID=1  HYD=APS104  AREA=0.1015 SQ MI
                        A=95  B=5  C=0  D=0
                        TP=0.133   MASSRAIN=-1

     K =   .157169HR    TP =   .133000HR    K/TP RATIO =  1.181723     SHAPE CONSTANT, N =  3.003365
     UNIT PEAK =   215.28    CFS   UNIT VOLUME =    .9989       B =   282.10      P60 = 1.8700
     AREA =      .101500 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.06000 AT PEAK FLOW.

PRINT HYD               ID=1  CODE=1

                                    HYDROGRAPH FROM AREA APS104


    RUNOFF VOLUME =      .47533 INCHES     =       2.5731 ACRE-FEET
    PEAK DISCHARGE RATE =      92.63 CFS  AT   1.500 HOURS   BASIN AREA =   .1015 SQ. MI.


*S CALCULATE THE FLOW FROM BASIN 103 (UNIT 3).
*S BASIN 103 MODELED AS DEVELOPED
SEDIMENT BULK           CODE=1  BF=1.00
COMPUTE NM HYD          ID=2  HYD=103  AREA=0.042 SQ MI
                        A=0  B=28  C=28  D=44
                        TP=0.133   MASSRAIN=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   73.125    CFS   UNIT VOLUME =    .9990       B =   526.28      P60 = 1.8700
     AREA =      .018480 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .118163HR    TP =   .133000HR    K/TP RATIO =   .888442     SHAPE CONSTANT, N =  3.992480
     UNIT PEAK =   62.720    CFS   UNIT VOLUME =    1.001       B =   354.67      P60 = 1.8700
     AREA =      .023520 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=2  CODE=1

                                  PARTIAL HYDROGRAPH   103.00


    RUNOFF VOLUME =     1.52461 INCHES     =       3.4151 ACRE-FEET
    PEAK DISCHARGE RATE =      87.56 CFS  AT   1.500 HOURS   BASIN AREA =   .0420 SQ. MI.


*S BASIN 103A (WESTSIDE OF 98TH) MODELED AS DEVELOPED
SEDIMENT BULK           CODE=1  BF=1.00
COMPUTE NM HYD          ID=3  HYD=101  AREA=0.0.00195 SQ MI
                        A=0  B=10  C=10  D=80
                        TP=0.133   MASSRAIN=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   .61729    CFS   UNIT VOLUME =    .9834       B =   526.28      P60 = 1.8700
     AREA =      .000156 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .118163HR    TP =   .133000HR    K/TP RATIO =   .888442     SHAPE CONSTANT, N =  3.992480
     UNIT PEAK =   .10400    CFS   UNIT VOLUME =    .8745       B =   354.67      P60 = 1.8700
     AREA =      .000039 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=3  CODE=1

                                  PARTIAL HYDROGRAPH   101.00
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    RUNOFF VOLUME =      2.10488 INCHES     =        .0219 ACRE-FEET
    PEAK DISCHARGE RATE =        .51 CFS  AT   1.500 HOURS   BASIN AREA =   .0002 SQ. MI.


*S ADD BASINS 103 AND 103A.
ADD HYD                 ID=4  HYD=103.2  I=3  II=2
PRINT HYD               ID=4  CODE=1

                                PARTIAL HYDROGRAPH   103.20


    RUNOFF VOLUME =      1.52728 INCHES     =       3.4370 ACRE-FEET
    PEAK DISCHARGE RATE =      88.07 CFS  AT   1.500 HOURS   BASIN AREA =   .0422 SQ. MI.


*S*************************************************************
*S BASIN 102A (EASTSIDE 98th/COMMERCIAL) MODELED AS DEVELOPED
SEDIMENT BULK           CODE=1  BF=1.00
COMPUTE NM HYD          ID=5  HYD=103.1  AREA=0.01695 SQ MI
                        A=0  B=10  C=10  D=80
                        TP=0.133   MASSRAIN=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   53.656    CFS   UNIT VOLUME =    .9989       B =   526.28      P60 = 1.8700
     AREA =      .013560 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

     K =   .118163HR    TP =   .133000HR    K/TP RATIO =   .888442     SHAPE CONSTANT, N =  3.992480
     UNIT PEAK =   9.0400    CFS   UNIT VOLUME =    .9999       B =   354.67      P60 = 1.8700
     AREA =      .003390 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=5  CODE=1

                                PARTIAL HYDROGRAPH   103.10


    RUNOFF VOLUME =      2.10487 INCHES     =       1.9028 ACRE-FEET
    PEAK DISCHARGE RATE =      42.62 CFS  AT   1.500 HOURS   BASIN AREA =   .0170 SQ. MI.


*S BASIN 102C(OPEN SPACE) MODELED AS UNDEVELOPED, BULK FLOWS 6%
SEDIMENT BULK           CODE=1  BF=1.06
COMPUTE NM HYD          ID=6  HYD=102  AREA=0.006 SQ MI
                        A=90  B=0  C=10  D=0
                        TP=0.133   MASSRAIN=-1

     K =   .157547HR    TP =   .133000HR    K/TP RATIO =  1.184562     SHAPE CONSTANT, N =  2.996709
     UNIT PEAK =   12.702    CFS   UNIT VOLUME =    .9978       B =   281.55      P60 = 1.8700
     AREA =      .006000 SQ MI    IA =    .62000 INCHES    INF =   1.58600 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.06000 AT PEAK FLOW.

PRINT HYD               ID=6  CODE=1

                                PARTIAL HYDROGRAPH   102.00


    RUNOFF VOLUME =       .50684 INCHES     =        .1622 ACRE-FEET
    PEAK DISCHARGE RATE =       5.74 CFS  AT   1.500 HOURS   BASIN AREA =   .0060 SQ. MI.


*S ADD BASIN 102A TO BASIN 102C.
ADD HYD                 ID=7  HYD=102.1  I=6  II=5
PRINT HYD               ID=7  CODE=1

                                PARTIAL HYDROGRAPH   102.10


    RUNOFF VOLUME =      1.68707 INCHES     =       2.0650 ACRE-FEET
    PEAK DISCHARGE RATE =      48.36 CFS  AT   1.500 HOURS   BASIN AREA =   .0230 SQ. MI.


*S CALCULATE THE FLOW FROM BASIN 102 (UNIT 2).
*S BASIN 102 MODELED AS DEVELOPED
SEDIMENT BULK           CODE=1  BF=1.00
COMPUTE NM HYD          ID=8  HYD=102  AREA=0.057 SQ MI
                        A=0  B=29  C=29  D=42
                        TP=0.133   MASSRAIN=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   94.730    CFS   UNIT VOLUME =    .9990       B =   526.28      P60 = 1.8700
     AREA =      .023940 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000
```

```
     K =   .118163HR    TP =   .133000HR    K/TP RATIO =   .888442     SHAPE CONSTANT, N =  3.992480
     UNIT PEAK =   88.160    CFS   UNIT VOLUME =    1.001       B =   354.67      P60 = 1.8700
     AREA =      .033060 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=8  CODE=1

                                   PARTIAL HYDROGRAPH   102.00


    RUNOFF VOLUME =     1.49238 INCHES     =       4.5368 ACRE-FEET
    PEAK DISCHARGE RATE =     117.47 CFS  AT   1.500 HOURS   BASIN AREA =   .0570 SQ. MI.


*S ADD BASIN 102A TO BASIN 102.
ADD HYD                  ID=9  HYD=102.1  I=7  II=8
PRINT HYD                ID=9  CODE=1

                                   PARTIAL HYDROGRAPH   102.10


    RUNOFF VOLUME =     1.54826 INCHES     =       6.6017 ACRE-FEET
    PEAK DISCHARGE RATE =     165.83 CFS  AT   1.500 HOURS   BASIN AREA =   .0800 SQ. MI.


*S CALCULATE THE FLOW FROM BASIN 102D.
*S BASIN 102D (UNSER BLVD) MODELED AS DEVELOPED
SEDIMENT BULK            CODE=1  BF=1.00
COMPUTE NM HYD           ID=10  HYD=101  AREA=0.0.00486 SQ MI
                         A=0  B=10  C=10  D=80
                         TP=0.133   MASSRAIN=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   1.5385    CFS   UNIT VOLUME =    .9928       B =   526.28      P60 = 1.8700
     AREA =      .000389 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .118163HR    TP =   .133000HR    K/TP RATIO =   .888442     SHAPE CONSTANT, N =  3.992480
     UNIT PEAK =   .25920    CFS   UNIT VOLUME =    .9540       B =   354.67      P60 = 1.8700
     AREA =      .000097 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=10  CODE=1

                                   PARTIAL HYDROGRAPH   101.00


    RUNOFF VOLUME =     2.10488 INCHES     =        .0546 ACRE-FEET
    PEAK DISCHARGE RATE =       1.24 CFS  AT   1.500 HOURS   BASIN AREA =   .0005 SQ. MI.


*S ADD BASIN 102D TO BASIN 102.
ADD HYD                  ID=11  HYD=102.1  I=10  II=9
PRINT HYD                ID=11  CODE=1

                                   PARTIA . HYDROGRAPH   102.10


    RUNOFF VOLUME =     1.55162 INCHES     =       6.6563 ACRE-FEET
    PEAK DISCHARGE RATE =     167.06 CFS  AT   1.500 HOURS   BASIN AREA =   .0804 SQ. MI.


*S*************************************************************
*S BASIN 103B (SOUTH DENNIS-CHAVEZ) MODELED AS FUTURE CONDITIONS, BULK FLOWS 6%
SEDIMENT BULK            CODE=1  BF=1.06
COMPUTE NM HYD           ID=12  HYD=103.3  AREA=0.019 SQ MI
                         A=0  B=25  C=25  D=50
                         TP=0.15   MASSRAIN=-1

     K =   .081750HR    TP =   .150000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   33.331    CFS   UNIT VOLUME =    1.000       B =   526.28      P60 = 1.8700
     AREA =      .009500 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133266HR    TP =   .150000HR    K/TP RATIO =   .888442     SHAPE CONSTANT, N =  3.992480
     UNIT PEAK =   22.462    CFS   UNIT VOLUME =    .9999       B =   354.67      P60 = 1.8700
     AREA =      .009500 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.06000 AT PEAK FLOW.

PRINT HYD                ID=12  CODE=1

                                   PARTIAL HYDROGRAPH   103.30
```

```
    RUNOFF VOLUME =      1.71860 INCHES      =        1.7415 ACRE-FEET
    PEAK DISCHARGE RATE =       40.35 CFS  AT   1.500 HOURS   BASIN AREA =   .0190 SQ. MI.


*S ROUTE FLOW FROM BASIN 103B THROUGH 24" RCP THROUGH UNIT 2.
COMPUTE RATING CURVE    CID=1  VN=1  CODE=-1  S=0.02 D=24 N=0.014

                                    RATING CURVE PIPE SECTION  1.0
                                       WATER        FLOW        FLOW        MAX
                                      SURFACE       AREA        RATE        WIDTH
                                       ELEV        SQ FT       CFS         FT
                                        .00          .00         .00         .00
                                        .10          .06         .16         .89
                                        .21          .17         .68        1.22
                                        .31          .31        1.57        1.45
                                        .42          .47        2.83        1.62
                                        .52          .65        4.42        1.76
                                        .63          .84        6.30        1.85
                                        .73         1.04        8.44        1.93
                                        .83         1.24       10.79        1.97
                                        .94         1.45       13.31        2.00
                                       1.04         1.66       15.92        2.00
                                       1.15         1.86       18.59        2.00
                                       1.25         2.07       21.24        2.00
                                       1.35         2.27       23.81        2.00
                                       1.46         2.46       26.21        2.00
                                       1.56         2.63       28.36        2.00
                                       1.67         2.80       30.15        2.00
                                       1.77         2.94       31.43        2.00
                                       1.88         3.06       31.96        2.00
                                       2.00         3.14       31.96        2.00
    COMPUTE TRAVEL TIME     ID=13  RN=1  NVS=1  L=2800  S=0.02

                                 TRAVEL TIME TABLE
                                                 REACH=  1.0

                                 WATER       AVERAGE     FLOW        TRAVEL
                                 DEPTH       AREA        RATE        TIME
                                 FEET        SQ.FT.      CFS         HRS
                                    .104        .062         .16       .3117
                                    .208        .174         .68       .1997
                                    .313        .314        1.57       .1552
                                    .417        .475        2.83       .1305
                                    .521        .651        4.42       .1147
                                    .625        .839        6.30       .1036
                                    .730       1.037        8.44       .0955
                                    .834       1.240       10.79       .0893
                                    .938       1.447       13.31       .0846
                                   1.042       1.655       15.92       .0808
                                   1.146       1.863       18.59       .0779
                                   1.251       2.067       21.24       .0757
                                   1.355       2.265       23.81       .0740
                                   1.459       2.456       26.21       .0729
                                   1.563       2.635       28.36       .0723
                                   1.668       2.799       30.15       .0722
                                   1.772       2.943       31.43       .0728
                                   1.876       3.061       31.96       .0745
                                   2.000       3.142       31.96       .0765
    ROUTE                   ID=13  HYD=103.2  INFLOW ID=12  DT=0.0
TRAVEL TIME TABLE EXCEEDED
    PRINT HYD               ID=13  CODE=1

                                PARTIAL HYDROGRAPH   103.20

    RUNOFF VOLUME =      1.71863 INCHES      =        1.7415 ACRE-FEET
    PEAK DISCHARGE RATE =       35.90 CFS  AT   1.650 HOURS   BASIN AREA =   .0190 SQ. MI.


*S BASIN 102B (SOUTH DENNIS-CHAVEZ) MODELED AS FUTURE CONDITIONS
SEDIMENT BULK           CODE=1  BF=1.00
COMPUTE NM HYD          ID=14  HYD=102.3  AREA=0.0127 SQ MI
                        A=0  B=25  C=25  D=50
                        TP=0.133   MASSRAIN=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   25.127    CFS   UNIT VOLUME =    .9987       B =   526.28      P60 = 1.8700
     AREA =      .006350 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .118163HR    TP =   .133000HR    K/TP RATIO =   .888442     SHAPE CONSTANT, N =  3.992480
     UNIT PEAK =   16.933    CFS   UNIT VOLUME =    1.000       B =   354.67      P60 = 1.8700
     AREA =      .006350 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=14  CODE=1
```

PARTIAL HYDROGRAPH 102.30

RUNOFF VOLUME = 1.62133 INCHES = 1.0982 ACRE-FEET
PEAK DISCHARGE RATE = 27.39 CFS AT 1.500 HOURS BASIN AREA = .0127 SQ. MI.

```
*S ADD BASIN 102B TO BASIN 103B.
ADD HYD                ID=15  HYD=102.1  I=14  II=13
PRINT HYD              ID=15  CODE=1
```

PARTIAL HYDROGRAPH 102.10

RUNOFF VOLUME = 1.67962 INCHES = 2.8397 ACRE-FEET
PEAK DISCHARGE RATE = 55.60 CFS AT 1.550 HOURS BASIN AREA = .0317 SQ. MI.

```
*S ROUTE FLOW FROM BASIN 102 COMBINED FLOW THROUGH 24" RCP THROUGH UNIT 1.
COMPUTE RATING CURVE    CID=1  VN=1  CODE=-1  S=0.02 D=24 N=0.014
```

RATING CURVE PIPE SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT
.00	.00	.00	.00
.10	.06	.16	.89
.21	.17	.68	1.22
.31	.31	1.57	1.45
.42	.47	2.83	1.62
.52	.65	4.42	1.76
.63	.84	6.30	1.85
.73	1.04	8.44	1.93
.83	1.24	10.79	1.97
.94	1.45	13.31	2.00
1.04	1.66	15.92	2.00
1.15	1.86	18.59	2.00
1.25	2.07	21.24	2.00
1.35	2.27	23.81	2.00
1.46	2.46	26.21	2.00
1.56	2.63	28.36	2.00
1.67	2.80	30.15	2.00
1.77	2.94	31.43	2.00
1.88	3.06	31.96	2.00
2.00	3.14	31.96	2.00

```
COMPUTE TRAVEL TIME     ID=16  RN=1  NVS=1  L=900  S=0.02
```

TRAVEL TIME TABLE
REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ.FT.	FLOW RATE CFS	TRAVEL TIME HRS
.104	.062	.16	.1002
.208	.174	.68	.0642
.313	.314	1.57	.0499
.417	.475	2.83	.0419
.521	.651	4.42	.0369
.625	.839	6.30	.0333
.730	1.037	8.44	.0307
.834	1.240	10.79	.0287
.938	1.447	13.31	.0272
1.042	1.655	15.92	.0260
1.146	1.863	18.59	.0250
1.251	2.067	21.24	.0243
1.355	2.265	23.81	.0238
1.459	2.456	26.21	.0234
1.563	2.635	28.36	.0232
1.668	2.799	30.15	.0232
1.772	2.943	31.43	.0234
1.876	3.061	31.96	.0239
2.000	3.142	31.96	.0246

```
    ROUTE                   ID=16  HYD=102.2  INFLOW ID=15  DT=0.0
TRAVEL TIME TABLE EXCEEDED
    PRINT HYD               ID=16  CODE=1
```

PARTIAL HYDROGRAPH 102.20

RUNOFF VOLUME = 1.67964 INCHES = 2.8397 ACRE-FEET
PEAK DISCHARGE RATE = 53.92 CFS AT 1.600 HOURS BASIN AREA = .0317 SQ. MI.

```
    *S*************************************************************
    *S BASIN 101 (UNIT 1) MODELED AS DEVELOPED
    SEDIMENT BULK           CODE=1  BF=1.00
    COMPUTE NM HYD          ID=17  HYD=101.1  AREA=0.05074 SQ MI
                            A=0  B=33.5  C=33.5  D=33
                            TP=0.133   MASSRAIN=-1
```

```
K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   66.256    CFS   UNIT VOLUME =    .9990       B =   526.28      P60 = 1.8700
AREA =      .016744 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

K =   .118163HR    TP =   .133000HR    K/TP RATIO =   .888442     SHAPE CONSTANT, N =  3.992480
UNIT PEAK =   90.656    CFS   UNIT VOLUME =    1.001       B =   354.67      P60 = 1.8700
AREA =      .033996 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=17  CODE=1

                                PARTIAL HYDROGRAPH   101.10

   RUNOFF VOLUME =     1.34731 INCHES     =       3.6460 ACRE-FEET
   PEAK DISCHARGE RATE =      99.12 CFS  AT   1.500 HOURS   BASIN AREA =   .0507 SQ. MI.


ROUTE RESERVOIR     ID=18 HYD NO=POND.101 INFLOW ID=17  CODE=10

                    OUTFLOW(CFS)   STORAGE(AC-FT)   DEPTH(FT)

                                   0.00            0.00            90.00

                                   0.50            0.46            91.00

                                   1.50            0.96            92.00

                                   2.50            1.51            93.00

                                   3.75            2.10            94.00

                                   4.75            2.59            94.75

                                   5.00            2.75            95.00

                                   50.00           3.09            95.50


* * * * * * * * * * * * * * * * *
```

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	90.00	.000	.00
.50	.00	90.00	.000	.00
1.00	.00	90.00	.000	.00
1.50	99.12	91.95	.937	1.45
2.00	16.39	94.81	2.630	4.81
2.50	2.58	94.95	2.717	4.95
3.00	.81	94.73	2.578	4.73
3.50	.40	94.48	2.413	4.39
4.00	.30	94.23	2.252	4.06
4.50	.27	94.00	2.102	3.75
5.00	.29	93.77	1.965	3.46
5.50	.32	93.56	1.840	3.20
6.00	.35	93.37	1.726	2.96
6.50	.41	93.19	1.625	2.74
7.00	.40	93.04	1.532	2.55
7.50	.39	92.89	1.447	2.39
8.00	.38	92.74	1.367	2.24
8.50	.37	92.60	1.293	2.10
9.00	.35	92.48	1.223	1.98
9.50	.35	92.36	1.158	1.86
10.00	.34	92.25	1.098	1.75
10.50	.33	92.15	1.041	1.65
11.00	.32	92.05	.988	1.55
11.50	.31	91.96	.939	1.46
12.00	.30	91.87	.893	1.37
12.50	.29	91.78	.851	1.28
13.00	.29	91.70	.812	1.20
13.50	.28	91.63	.775	1.13
14.00	.27	91.56	.741	1.06
14.50	.27	91.50	.710	1.00
15.00	.26	91.44	.681	.94
15.50	.26	91.39	.654	.89
16.00	.25	91.34	.629	.84
16.50	.25	91.29	.606	.79
17.00	.25	91.25	.584	.75
17.50	.24	91.21	.564	.71
18.00	.23	91.17	.545	.67
18.50	.23	91.14	.528	.64
19.00	.23	91.10	.512	.60
19.50	.22	91.07	.497	.57
20.00	.22	91.05	.483	.55
20.50	.22	91.02	.470	.52
21.00	.21	90.99	.457	.50

21.50	.21	90.97	.446	.48
22.00	.21	90.94	.435	.47
22.50	.20	90.92	.424	.46
23.00	.20	90.90	.413	.45
23.50	.19	90.88	.403	.44
24.00	.19	90.85	.393	.43
24.50	.01	90.82	.379	.41
25.00	.00	90.79	.362	.39
25.50	.00	90.75	.346	.38
26.00	.00	90.72	.331	.36
26.50	.00	90.69	.316	.34
27.00	.00	90.66	.303	.33
27.50	.00	90.63	.289	.31

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
28.00	.00	90.60	.277	.30
28.50	.00	90.57	.264	.29
29.00	.00	90.55	.253	.27
29.50	.00	90.53	.242	.26

PEAK DISCHARGE = 4.987 CFS - PEAK OCCURS AT HOUR 2.25
MAXIMUM WATER SURFACE ELEVATION = 94.987
MAXIMUM STORAGE = 2.7419 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD ID=18 CODE=10

HYDROGRAPH FROM AREA POND.101

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	3.0	12.000	1.4	18.000	.7
.500	.0	6.500	2.7	12.500	1.3	18.500	.6
1.000	.0	7.000	2.5	13.000	1.2	19.000	.6
1.500	1.5	7.500	2.4	13.500	1.1	19.500	.6
2.000	4.8	8.000	2.2	14.000	1.1	20.000	.5
2.500	4.9	8.500	2.1	14.500	1.0	20.500	.5
3.000	4.7	9.000	2.0	15.000	.9	21.000	.5
3.500	4.4	9.500	1.9	15.500	.9	21.500	.5
4.000	4.1	10.000	1.8	16.000	.8	22.000	.5
4.500	3.8	10.500	1.6	16.500	.8	22.500	.5
5.000	3.5	11.000	1.6	17.000	.7	23.000	.4
5.500	3.2	11.500	1.5	17.500	.7	23.500	.4

RUNOFF VOLUME = 1.26172 INCHES = 3.4144 ACRE-FEET
PEAK DISCHARGE RATE = 4.99 CFS AT 2.250 HOURS BASIN AREA = .0507 SQ. MI.

*S ADD BASIN 101 TO DENNIS-CHAVEZ BASINS.
ADD HYD ID=19 HYD=101.2 I=18 II=16
PRINT HYD ID=19 CODE=1

PARTIAL HYDROGRAPH 101.20

RUNOFF VOLUME = 1.42241 INCHES = 6.2540 ACRE-FEET
PEAK DISCHARGE RATE = 56.69 CFS AT 1.600 HOURS BASIN AREA = .0824 SQ. MI.

*S ROUTE FLOW FROM BASIN 101.1 COMBINED FLOW THROUGH 30" RCP THROUGH UNIT 1.
COMPUTE RATING CURVE CID=1 VN=1 CODE=-1 S=0.015 D=30 N=0.014

RATING CURVE PIPE SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT
.00	.00	.00	.00
.13	.10	.24	1.11
.26	.27	1.06	1.53
.39	.49	2.47	1.82
.52	.74	4.44	2.03
.65	1.02	6.93	2.19
.78	1.31	9.89	2.32
.91	1.62	13.26	2.41
1.04	1.94	16.95	2.47
1.17	2.26	20.89	2.50

```
                    1.30        2.59        25.00        2.50
                    1.43        2.91        29.19        2.50
                    1.56        3.23        33.35        2.50
                    1.69        3.54        37.38        2.50
                    1.82        3.84        41.16        2.50
                    1.95        4.12        44.53        2.50
                    2.08        4.37        47.34        2.50
                    2.21        4.60        49.35        2.50
                    2.35        4.78        50.18        2.50
                    2.50        4.91        50.18        2.50
COMPUTE TRAVEL TIME     ID=20  RN=1  NVS=1  L=2000  S=0.025

                    TRAVEL TIME TABLE
                                REACH=  1.0

                    WATER       AVERAGE     FLOW        TRAVEL
                    DEPTH       AREA        RATE        TIME
                    FEET        SQ.FT.      CFS         HRS
                       .130        .098         .24       .2215
                       .261        .271        1.06       .1420
                       .391        .490        2.47       .1103
                       .521        .741        4.44       .0927
                       .651       1.017        6.93       .0815
                       .782       1.312        9.89       .0736
                       .912       1.620       13.26       .0679
                      1.042       1.937       16.95       .0635
                      1.173       2.261       20.89       .0601
                      1.303       2.586       25.00       .0575
                      1.433       2.910       29.19       .0554
                      1.563       3.229       33.35       .0538
                      1.694       3.540       37.38       .0526
                      1.824       3.837       41.16       .0518
                      1.954       4.117       44.53       .0514
                      2.084       4.373       47.34       .0513
                      2.215       4.599       49.35       .0518
                      2.345       4.783       50.18       .0529
                      2.500       4.909       50.18       .0543
    ROUTE                   ID=20  HYD=102.2  INFLOW ID=19  DT=0.0
TRAVEL TIME TABLE EXCEEDED
    PRINT HYD               ID=20  CODE=1

                                PARTIAL HYDROGRAPH   102.20


        RUNOFF VOLUME =     1.42135 INCHES     =       6.2493 ACRE-FEET
        PEAK DISCHARGE RATE =      54.54 CFS  AT   1.650 HOURS   BASIN AREA =   .0824 SQ. MI.


    *S BASIN 101B (SOUTH DENNIS-CHAVEZ) MODELED AS FUTURE CONDITIONS
    SEDIMENT BULK           CODE=1  BF=1.00
    COMPUTE NM HYD          ID=21  HYD=101.3  AREA=0.00346 SQ MI
                            A=0  B=25  C=25  D=50
                            TP=0.133   MASSRAIN=-1

        K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
        UNIT PEAK =   6.8455    CFS   UNIT VOLUME =    .9976       B =   526.28      P60 = 1.8700
        AREA =      .001730 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


        K =   .118163HR    TP =   .133000HR    K/TP RATIO =   .888442     SHAPE CONSTANT, N =  3.992480
        UNIT PEAK =   4.6134    CFS   UNIT VOLUME =    .9985       B =   354.67      P60 = 1.8700
        AREA =      .001730 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    PRINT HYD               ID=21  CODE=1

                                PARTIAL HYDROGRAPH   101.30


        RUNOFF VOLUME =     1.62133 INCHES     =        .2992 ACRE-FEET
        PEAK DISCHARGE RATE =       7.47 CFS  AT   1.500 HOURS   BASIN AREA =   .0035 SQ. MI.


    *S ADD BASIN 101B TO BASIN 101.
    ADD HYD                 ID=22  HYD=101.4  I=21  II=20
    PRINT HYD               ID=22  CODE=1

                                PARTIAL HYDROGRAPH   101.40


        RUNOFF VOLUME =     1.42940 INCHES     =       6.5485 ACRE-FEET
        PEAK DISCHARGE RATE =      58.64 CFS  AT   1.650 HOURS   BASIN AREA =   .0859 SQ. MI.


    PUNCH HYD               ID=22
    FINISH
```

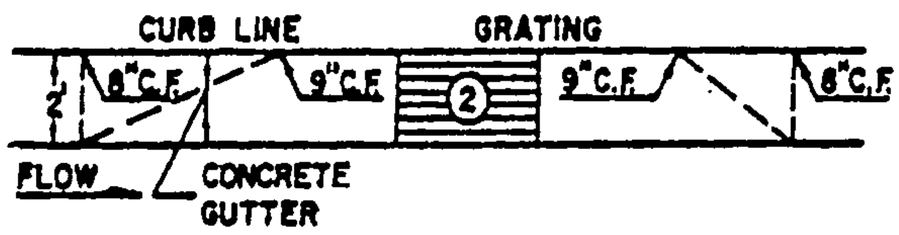
```
        NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 07:40:13
(s10H
```

APPENDIX D

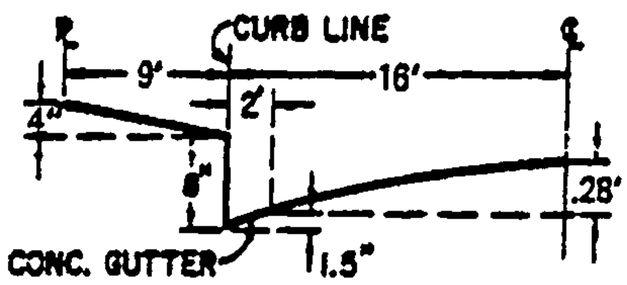
STREET & GRATE CAPACITIES

Ceja Vista - Unit 1

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



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)

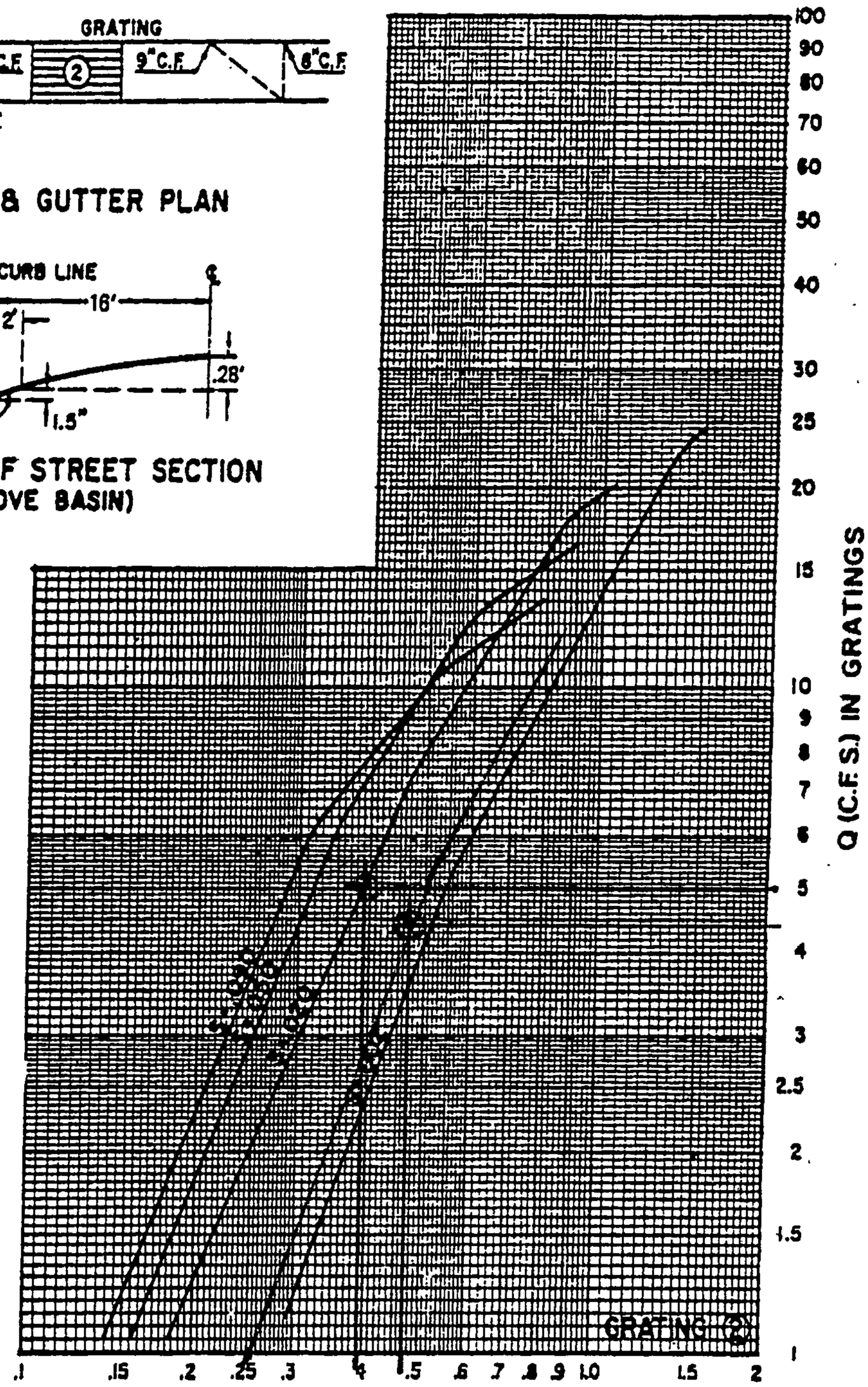


PLATE 22.3 D-5

STREET CAPACITY

Ceja Vista - Unit 1

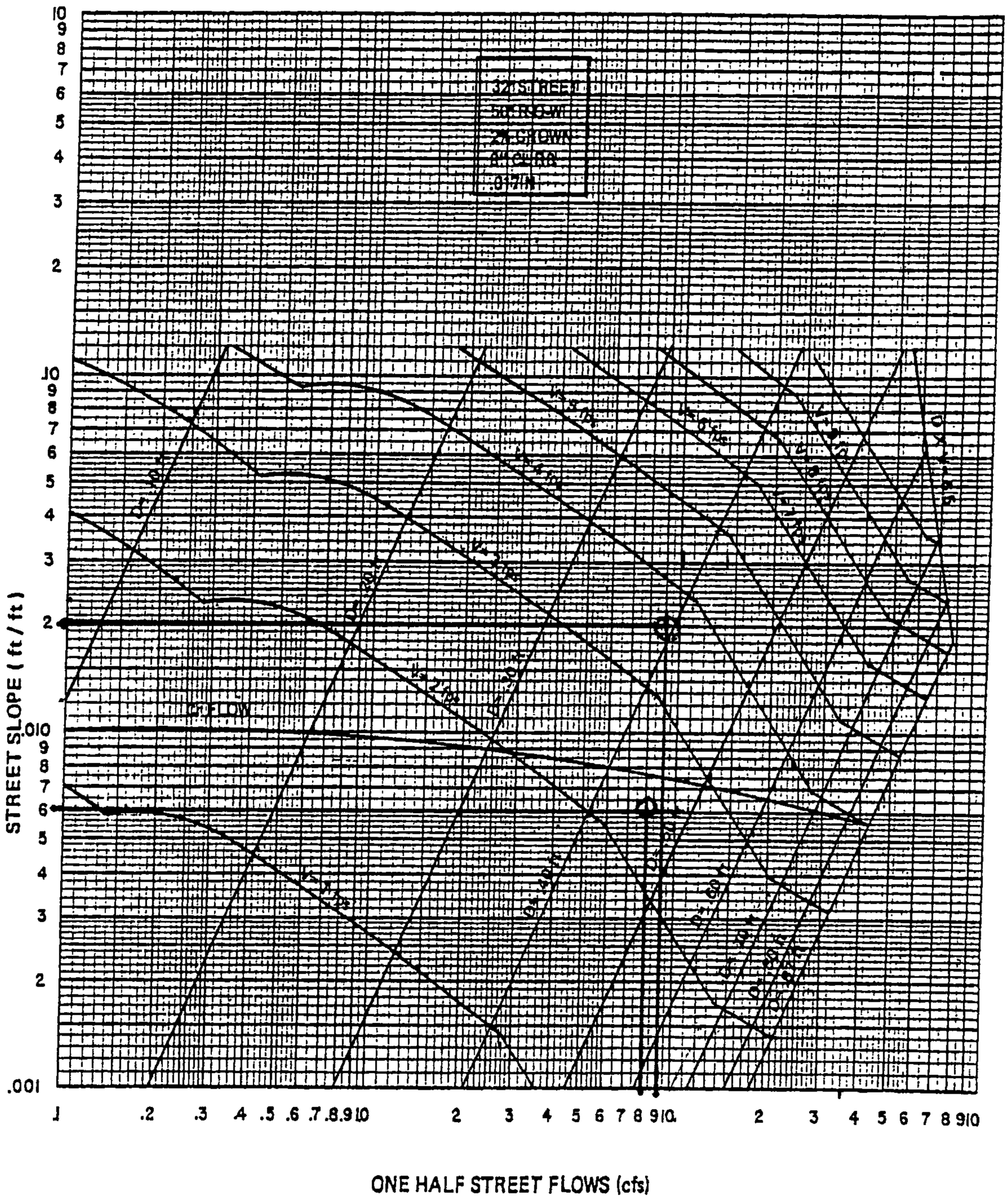
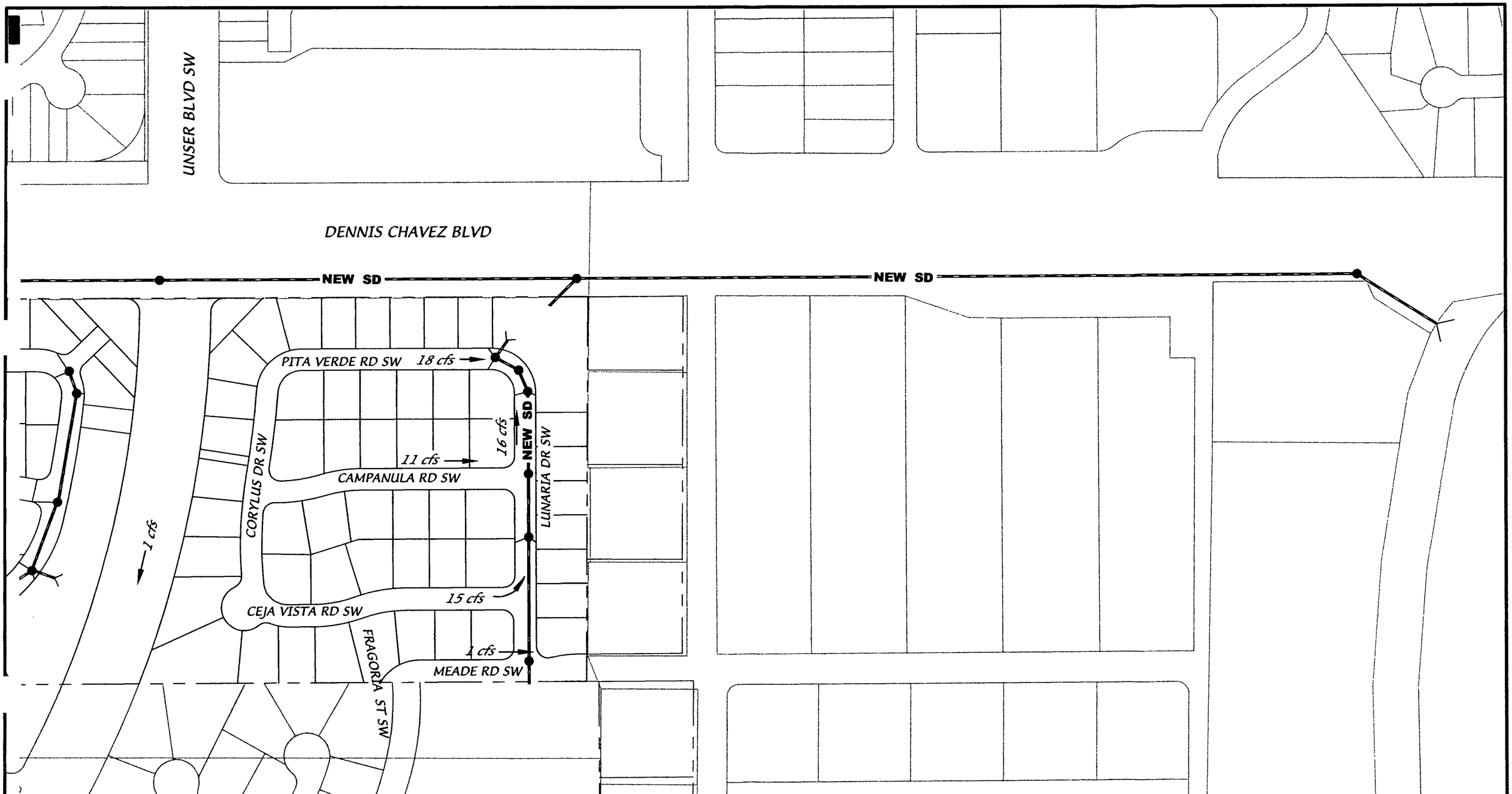


PLATE 22.3 D-1



Unit 1 Street Flows				
	Slope	Total Flow	Depth of Flow	Grating Capacity
Pita Verde (Sump)	2.00%	18 cfs	0.39 ft	39 cfs
Campanula	1.75%	11 cfs	0.35 ft	None
Lunaria	0.60%	30cfs	0.47 ft	15 cfs
Lunaria (Sump)	0.00%		0.87 ft	30cfs
Total		51 cfs		84 cfs

N

SCALE: 1" = 200'

LEGEND

PROPOSED STORM FLOW

PROPOSED STORMDRAIN

A04jobs\A4095ANS\EXHIBIT\A4095-ST-FLOW.dwg\09-26-06\DER

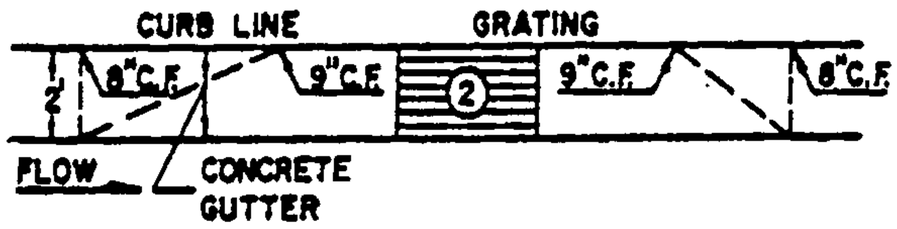
CEJA VISTA SUBDIVISION
FUTURE DEVELOPED CONDITIONS

DRAINAGE BASIN MAP

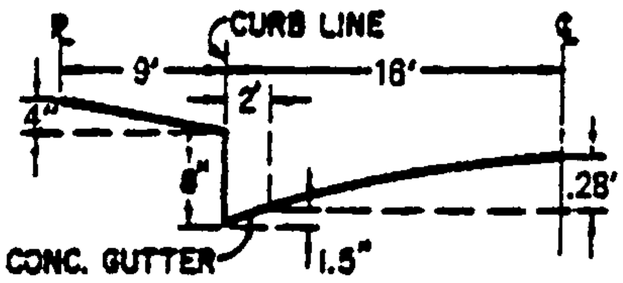
MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505)828-2200, FAX (505)797-9539

Ceja Vista - Unit 2

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



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)

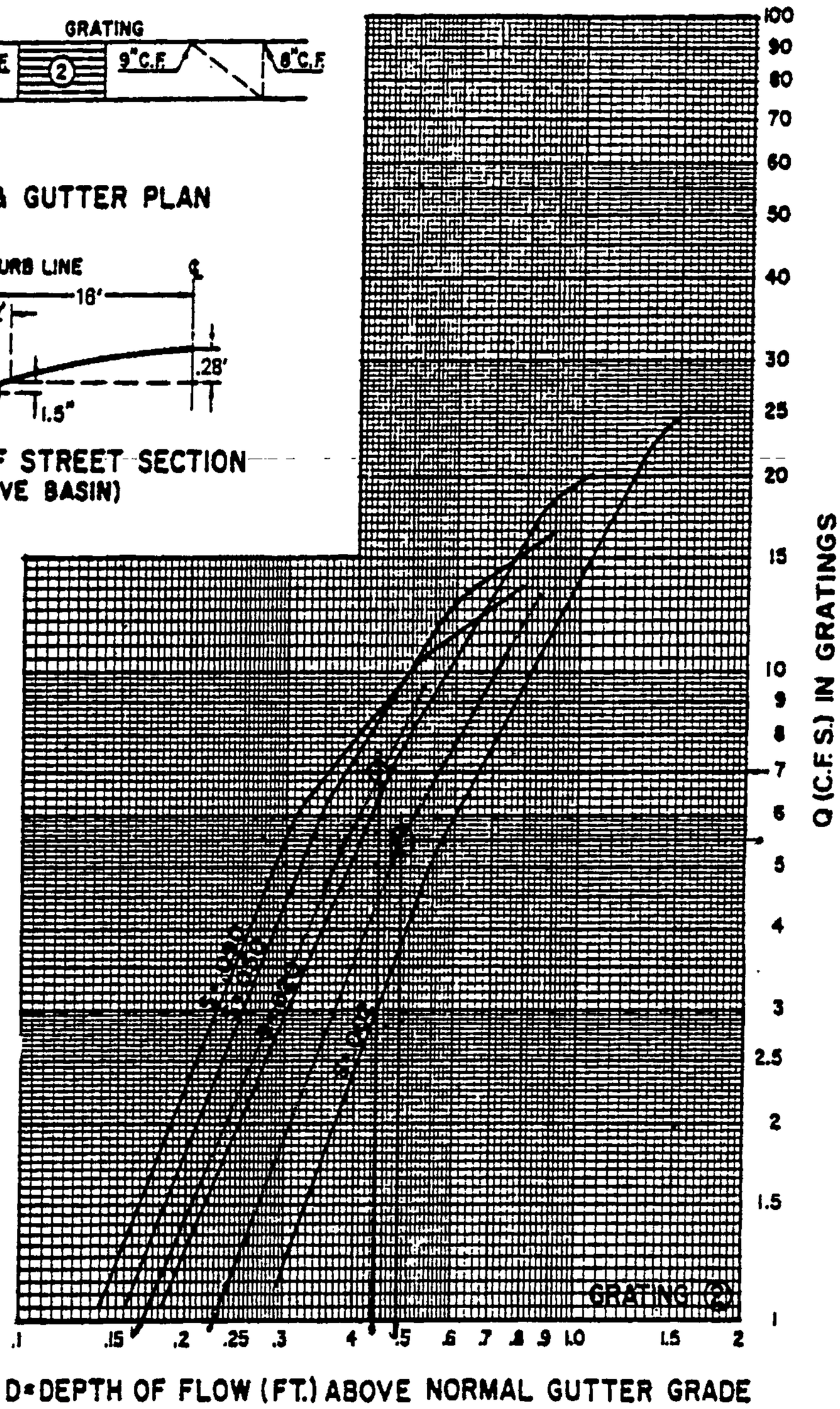


PLATE 22.3 D-5

STREET CAPACITY

Ceja Vista - Unit 2

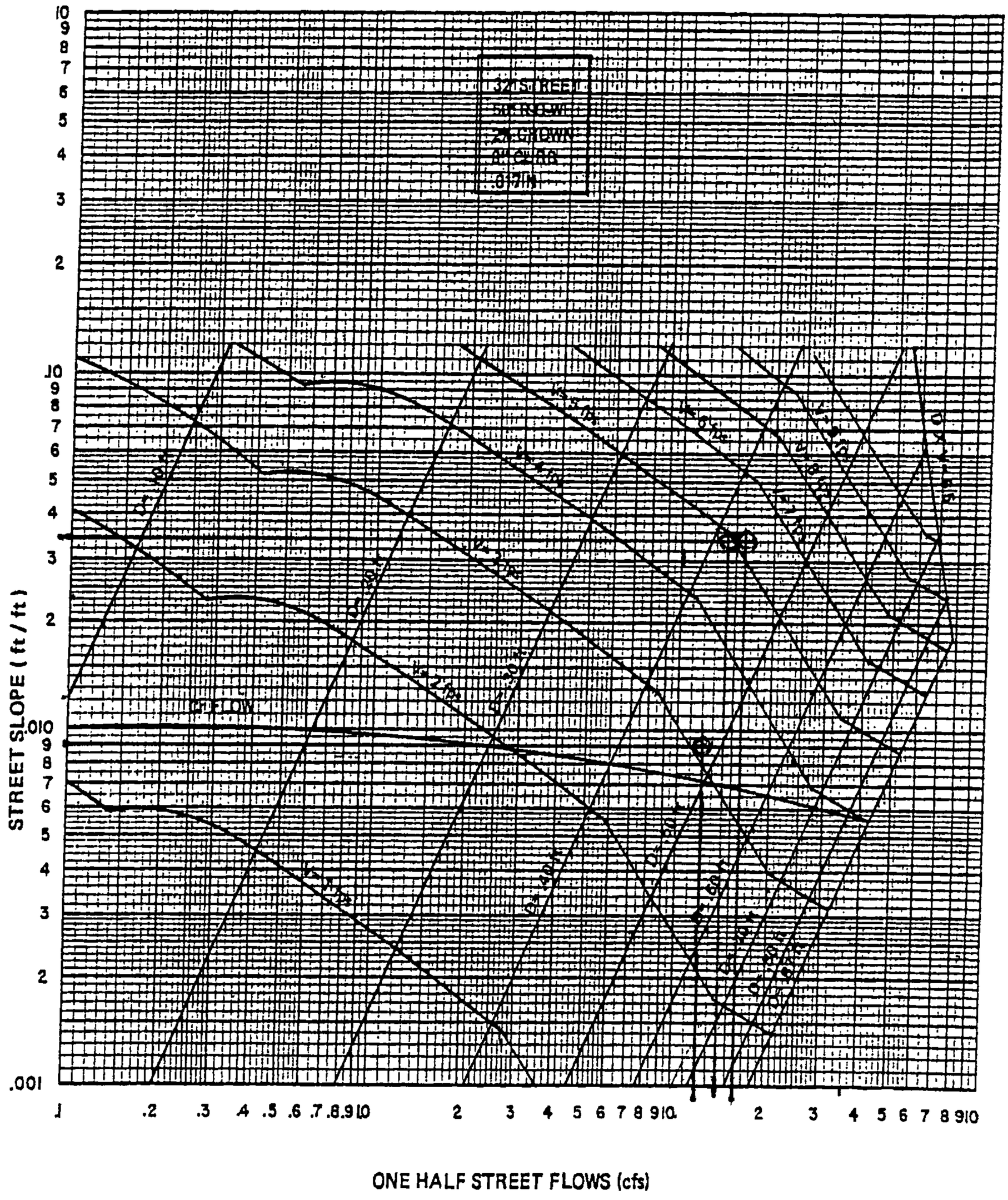
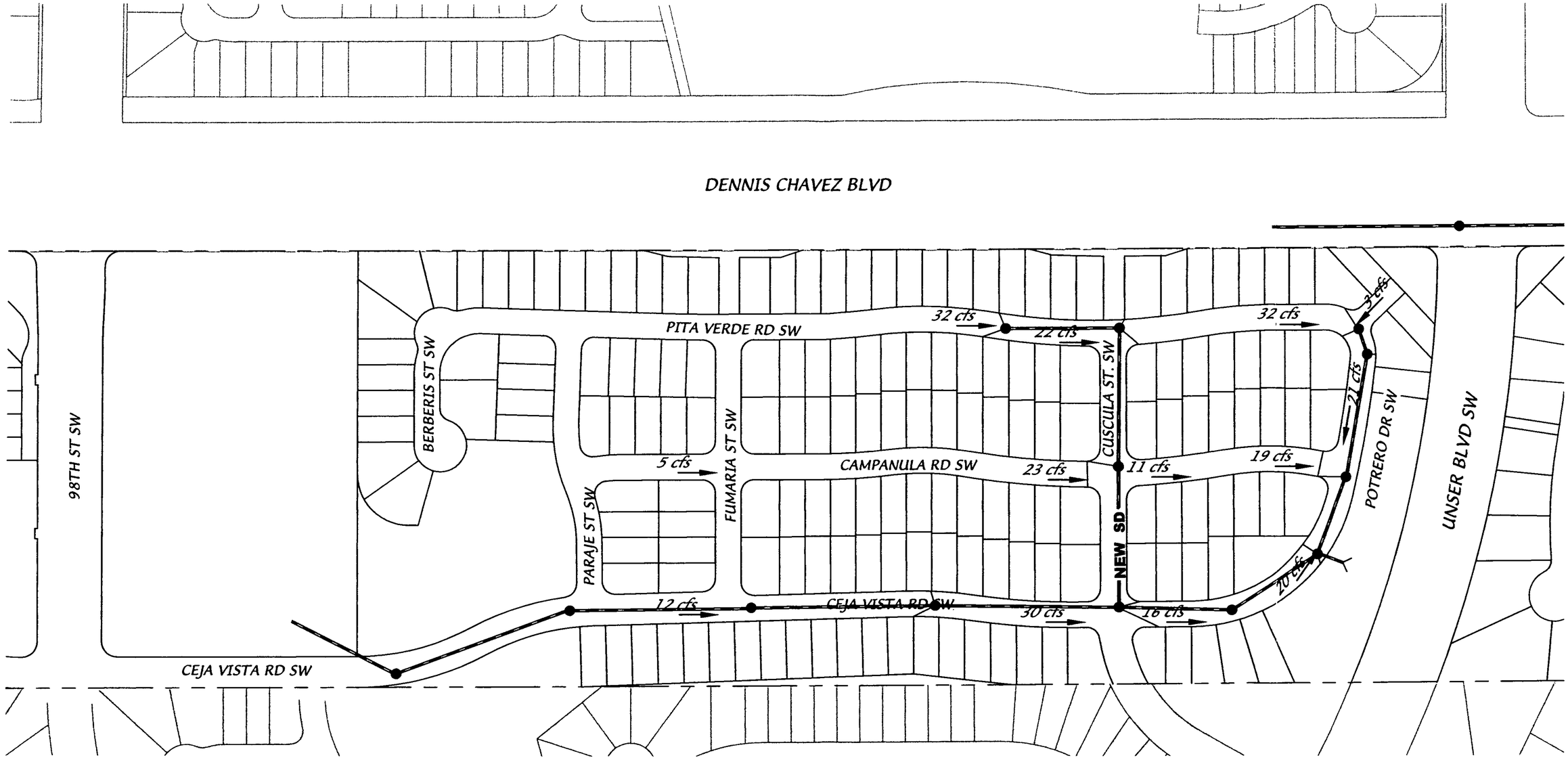


PLATE 22.3 D-1



Unit 2 Street Flows				
	Slope	Flow	Depth of Flow	Grating Capacity
Ceja Vista Rd	3.10%	47 cfs	0.43 ft	27 cfs
Ceja Vista (Sump)	0.00%		0.87 ft	32 cfs
Campanula	3.10%	35cfs	0.41 ft	25 cfs
Pita Verde	3.20%	28 cfs	0.30 ft	14 cfs
Potrero	0.60%	8 cfs	0.41 ft	9 cfs
Potrero (Sump)	0.00%		0.87 ft	32 cfs
Total		118 cfs		139 cfs

N

SCALE: 1" = 200'

LEGEND

PROPOSED STORM FLOW

PROPOSED STORMDRAIN

CEJA VISTA SUBDIVISION
FUTURE DEVELOPED CONDITIONS

DRAINAGE BASIN MAP

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

A04jobs\A4095ANS\EXHIBIT\A4095-DBMAP-REV.dwg\09-14-06\DER ACH

STREET CAPACITY

Ceja Vista - Unit 3

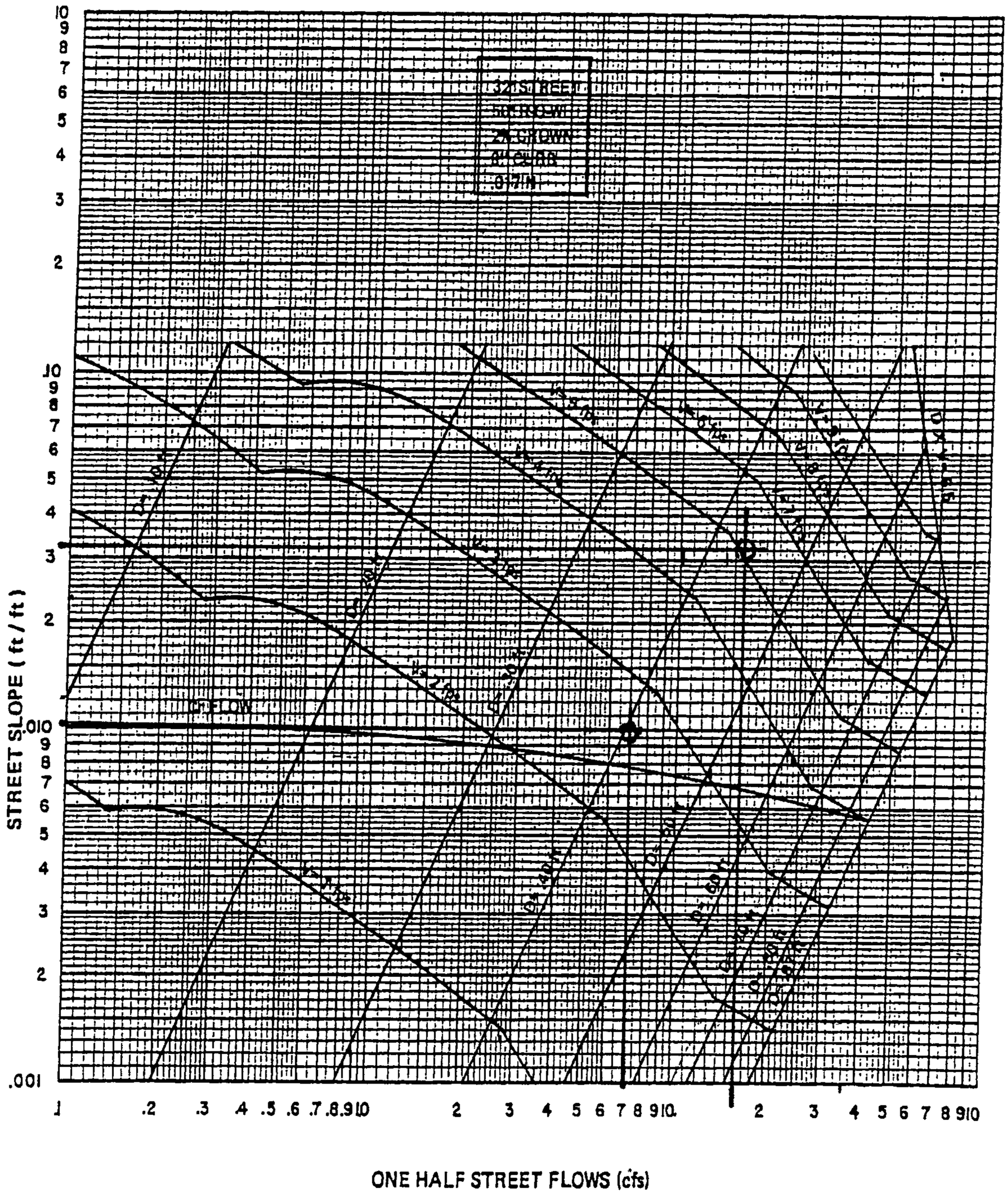
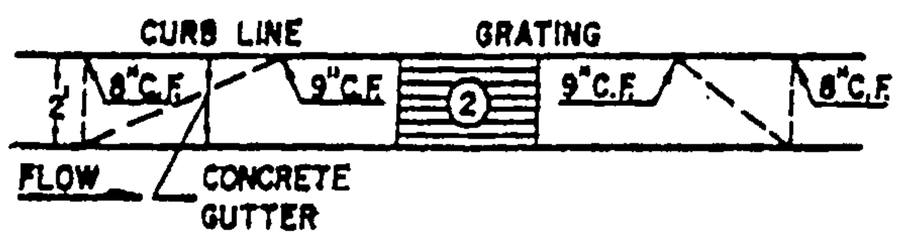


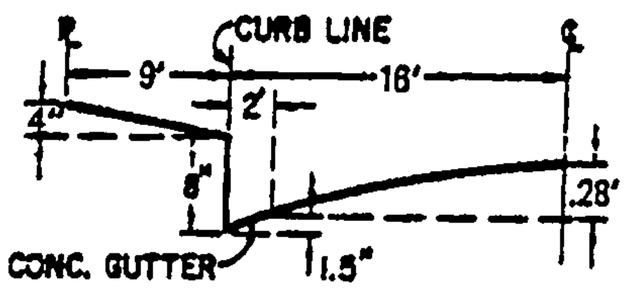
PLATE 22.3 D-1

Ceja Vista - Unit 3

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



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)

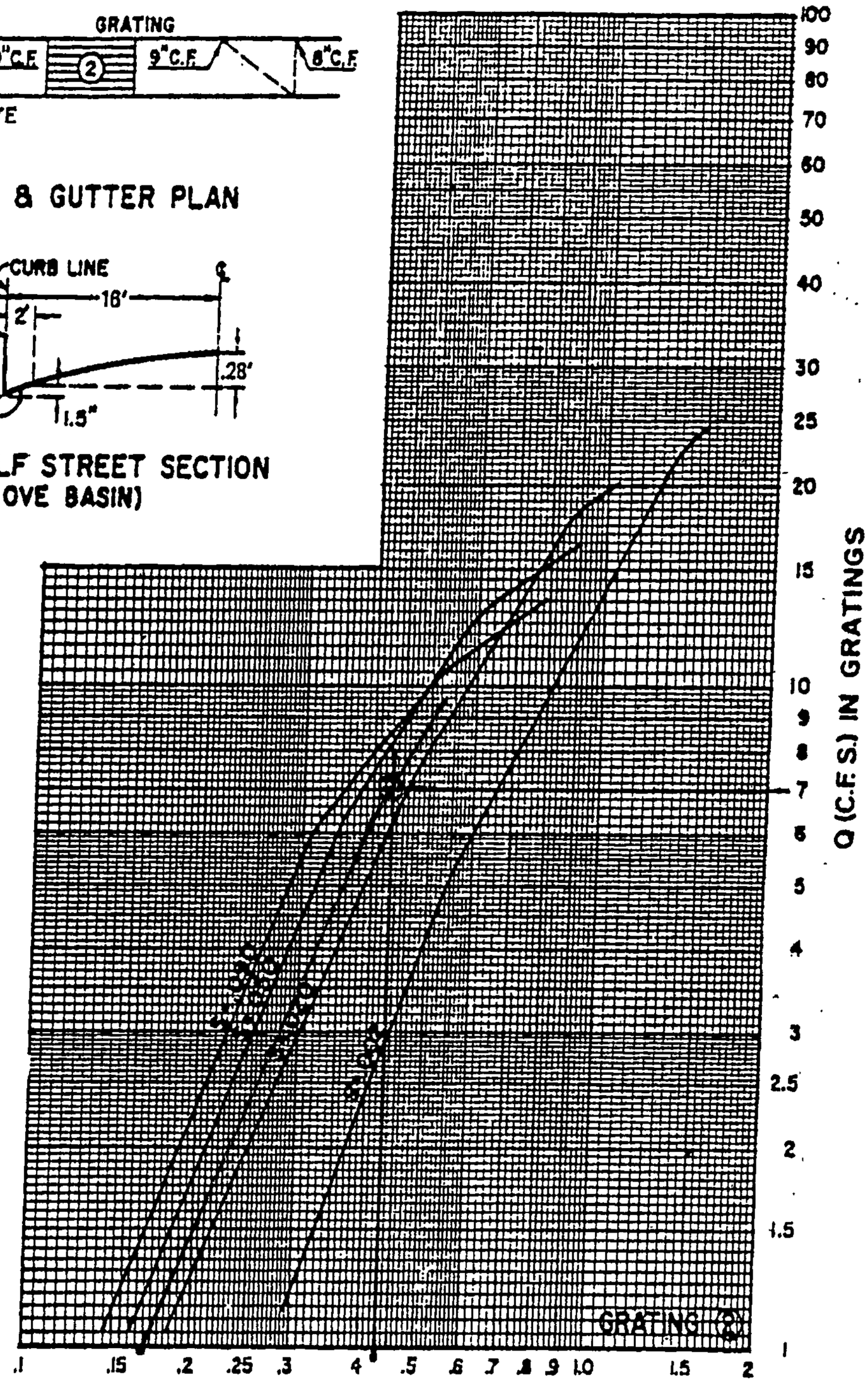
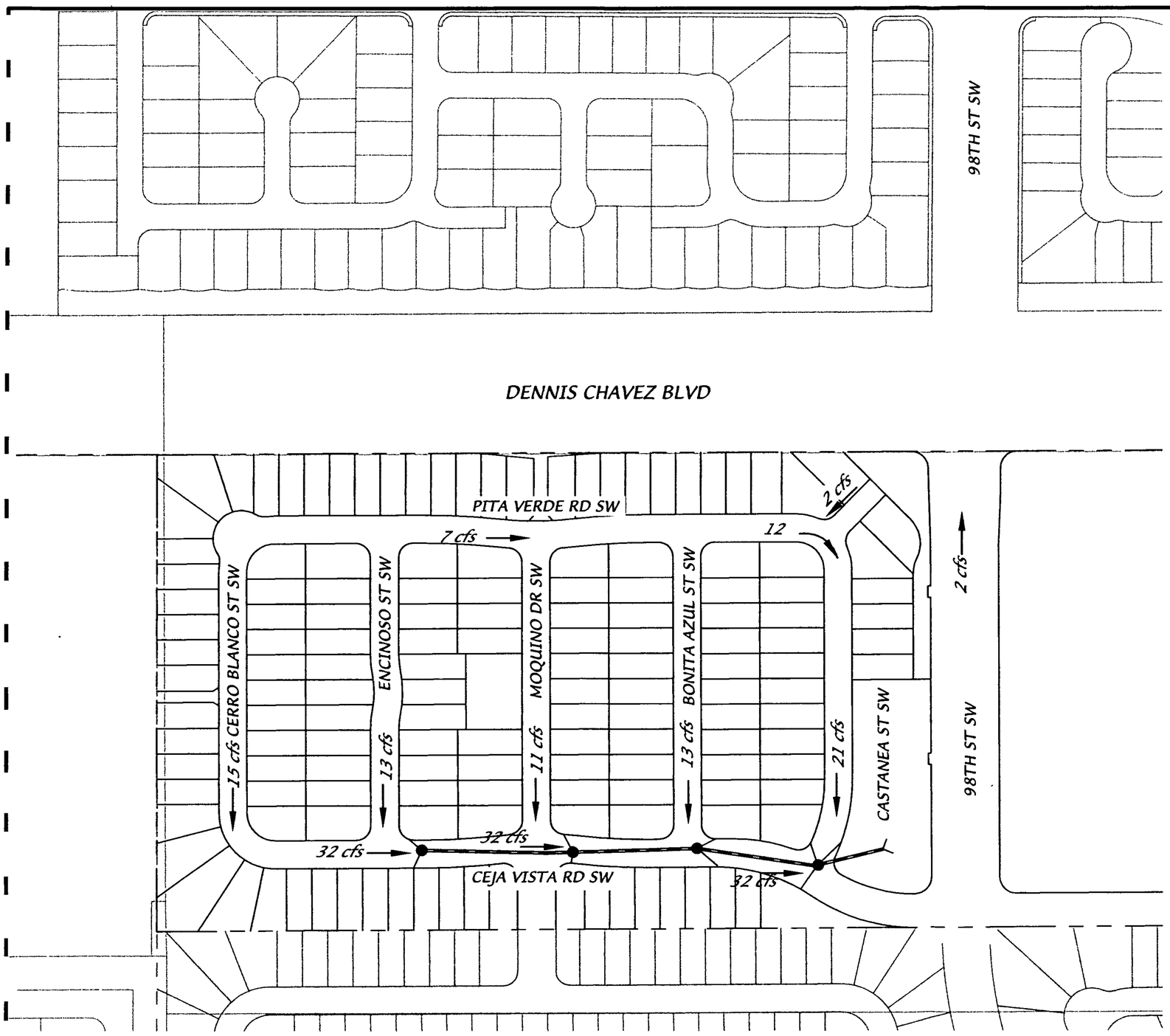


PLATE 22.3 D-5



Unit 3 Street Flows				
	Slope	Flow	Depth of Flow	Grating Capacity
Ceja Vista Rd	3.30%	15 cfs	0.43 ft	42 cfs
Ceja Vista (Sump)	0.00%		0.87 ft	55 cfs
Bonita Azul	0.90%	13cfs	0.40 ft	
Moquino	0.90%	11 cfs	0.38 ft	
Encinoso St	1.20%	13 cfs	0.40 ft	
Cerro Blanco	1.20%	15 cfs	0.41 ft	
Castanea	1.00%	9 cfs	0.45 ft	
Pita Verde	3.30%	12 cfs	0.40 ft	
Total		88 cfs		97 cfs

N

SCALE: 1" = 200'

LEGEND

PROPOSED STORM FLOW

PROPOSED STORMDRAIN

CEJA VISTA SUBDIVISION
FUTURE DEVELOPED CONDITIONS

DRAINAGE BASIN MAP

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

A04jobs\A4095ANS\EXHIBIT\A4095-DBMAP-REV.dwg\09-14-06\DER ACH

Ceja Vista
Temporary Pond Volumes

Excess Precip 6-hr

	A	B	C	D
Zone 1	0.44	0.67	0.99	1.97

Basin	Area (ac)	Area (mi^2)	Land Treatment A	B	C	D	Qp	Ad
Unit 2	36.46	0.057	0%	29.3%	29.3%	41.4%	47.46	15.09
98th St/Comm.	10.85	0.017	0%	7.5%	7.5%	85.0%	19.52	9.22
Open Space	2.92	0.005	100%	0.0%	0.0%	0.0%	1.28	0.00
Unser	1.55	0.002	0%	3.6%	3.6%	92.9%	2.93	1.44
Total	51.78						71.19	25.75

Weighted E= 1.375

V360= 5.933 ac-ft

V(10 day)= 9.087 ac-ft

Basin	Area (ac)	Area (mi^2)	Land Treatment A	B	C	D	Qp	Ad
Unit 3	26.88	0.042	0%	28.3%	28.3%	43.5%	35.63	11.68

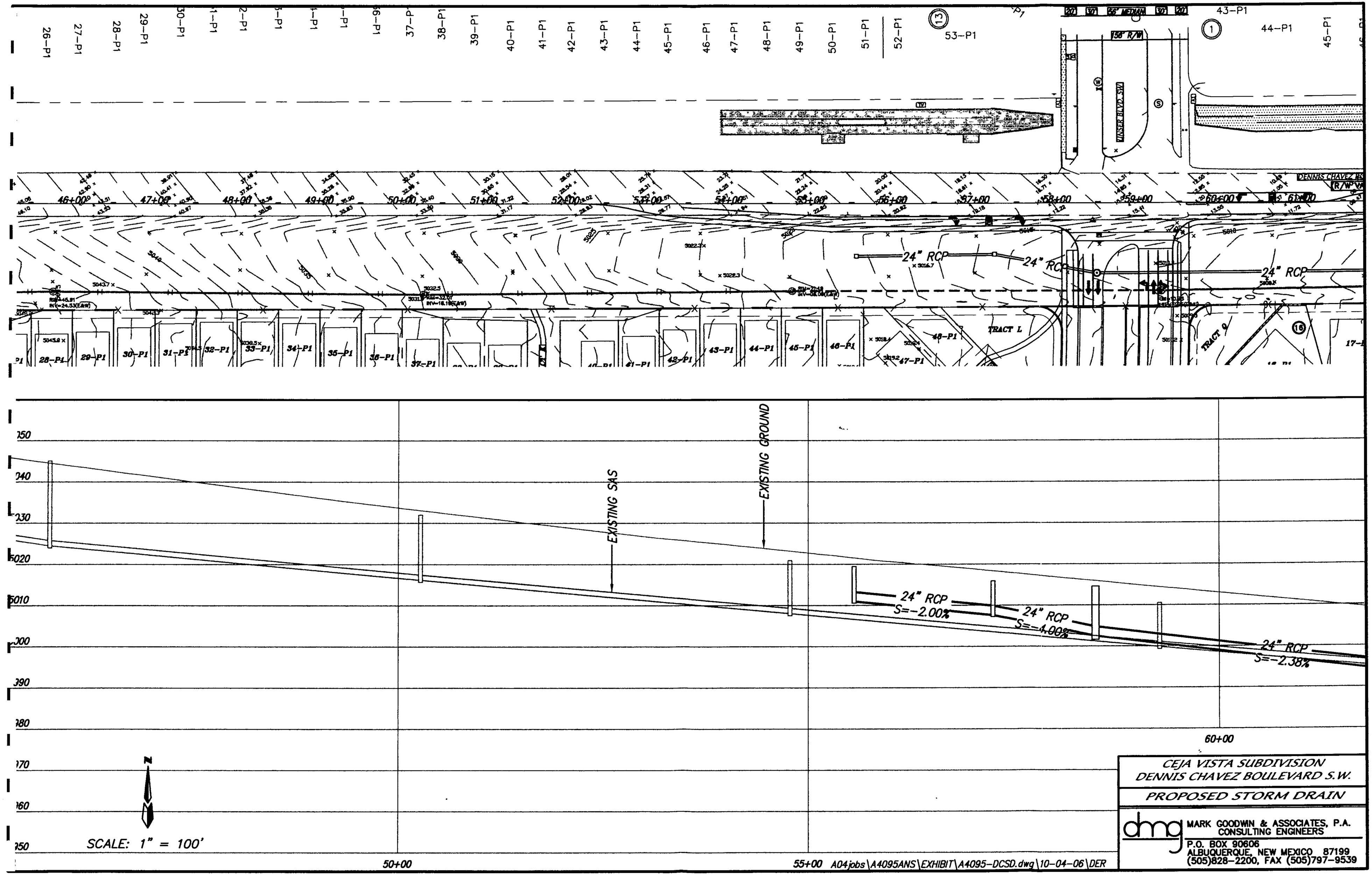
Weighted E= 1.325

V360= 2.969 ac-ft

V(10 day)= 4.400 ac-ft

APPENDIX E

PROPOSED STORM DRAIN PLAN & PROFILE

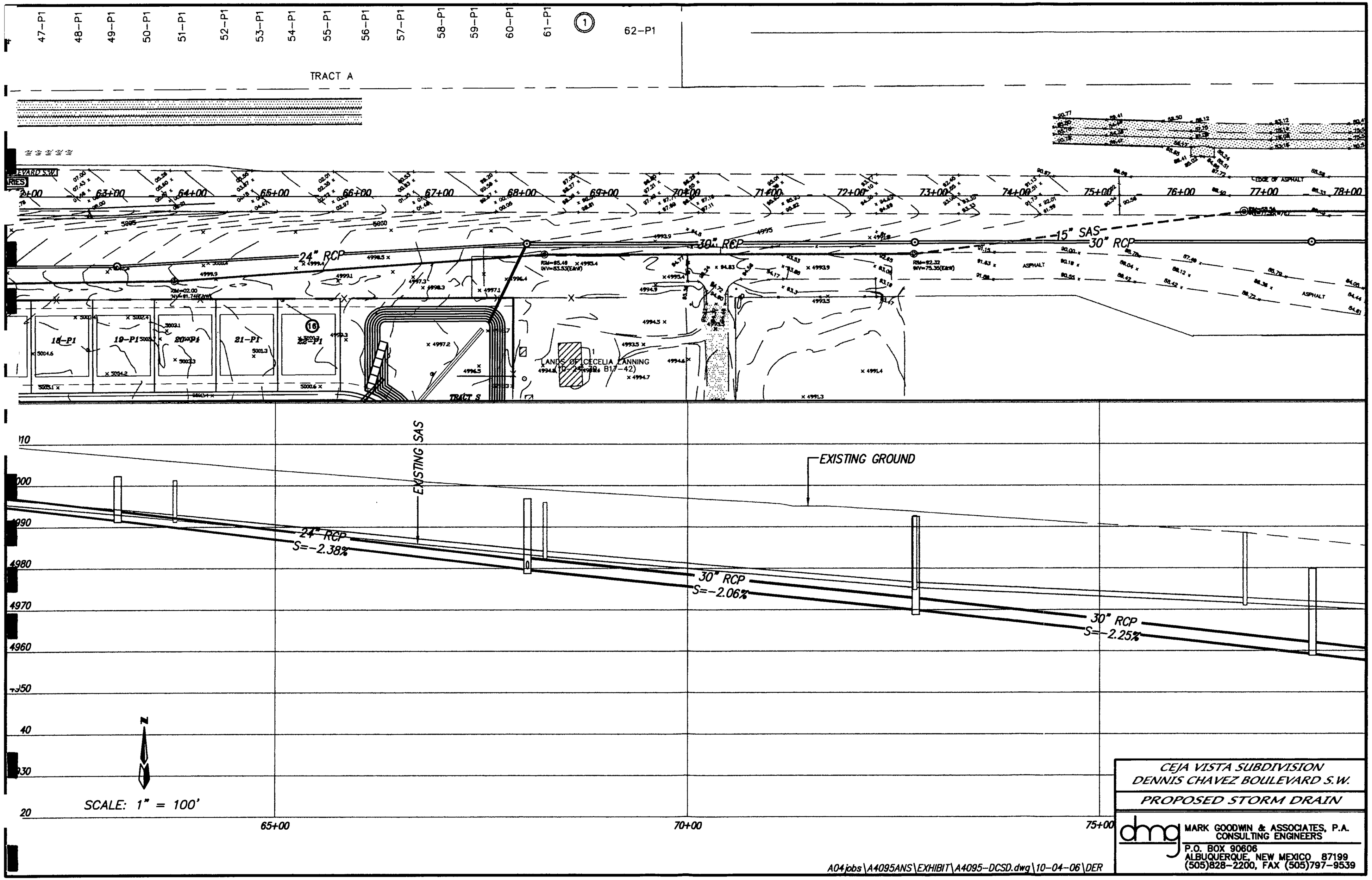


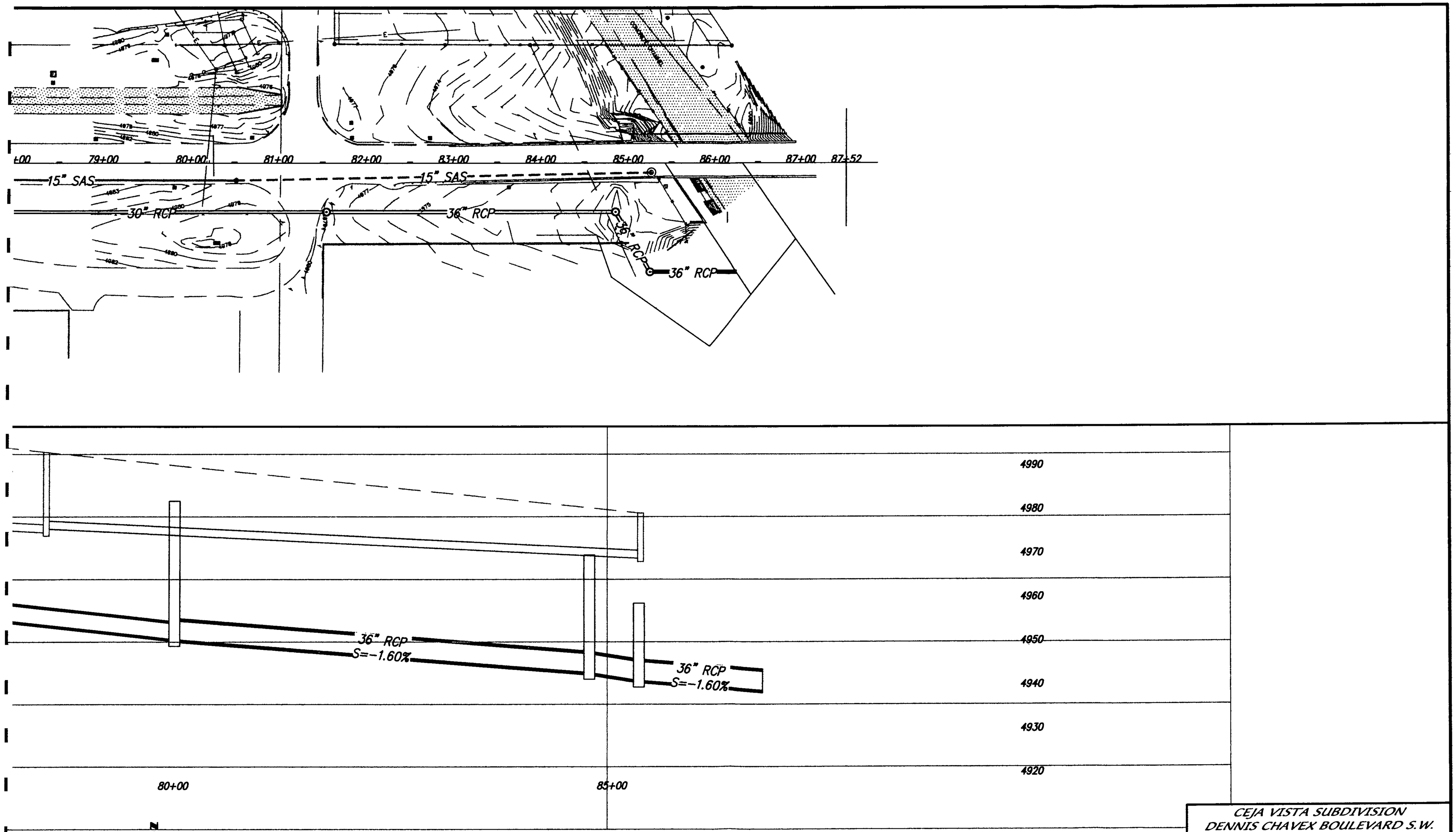
CEJA VISTA SUBDIVISION
DENNIS CHAVEZ BOULEVARD S.W.

PROPOSED STORM DRAIN

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

A04jobs\A4095ANS\EXHIBIT\A4095-DCSD.dwg\10-04-06\DER


TRACT A
24" RCP
30" RCP
15" SAS
30" RCP
TRACT S
LANDS OF CECELIA LANNING
EDGE OF ASPHALT
ASPHALT
EXISTING SAS
EXISTING GROUND
24" RCP
S=-2.38%
30" RCP
S=-2.06%
30" RCP
S=-2.25%
SCALE: 1" = 100'
65+00
70+00
75+00
CEJA VISTA SUBDIVISION
DENNIS CHAVEZ BOULEVARD S.W.
PROPOSED STORM DRAIN
MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505)828-2200, FAX (505)797-9539
A04jobs\A4095ANS\EXHIBIT\A4095-DCSD.dwg\10-04-06\DER



CEJA VISTA SUBDIVISION
DENNIS CHAVEX BOULEVARD S.W.

PROPOSED STORM DRAIN

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

A04jobs\A4095ANS\EXHIBIT\A4095-DCSD.dwg\10-04-06\DER

APPENDIX F

MASTER GRADING & DRAINAGE PLAN

PIPE SIZES

POND VOL'S

APS APPROVAL

SD IN MEADE RD

CITY OF ALBUQUERQUE

May 24, 2010

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

Re: Ceja Vista Unit 1 (fka Unit 3) Amended Grading Plan
Engineer's Stamp dated 5-6-10, (P9/D2D)

Dear Ms. Hoelzer,

Based upon the information provided in your submittal dated 5-6-10, the above referenced plan is approved for Amended Preliminary Plat action by the DRB.

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

Sincerely,

Bradley L. Bingham, PE
Principal Engineer, Planning Dept
Development and Building Services

C: file

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: **Ceja Vista Unit 1,2,3** ZONE MAP/DRG. FILE # **P-09-Z** D002D
DRB#: **1004428** EPC#: WORK ORDER#: **797381**

LEGAL DESCRIPTION: Tracts RR-3-A, RR-3-B, RR-3-C, RR-3-D, RR-3-E Westland South
CITY ADDRESS:

ENGINEERING FIRM: **MARK GOODWIN & ASSOCIATES, PA** CONTACT: **DIANE HOELZER,PE**
ADDRESS: PO BOX 90606 PHONE: 828-2200
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87199

OWNER: **ALBUQUERQUE RIO BRAVO PARTNERS, LLC** CONTACT: BILL ALLEN
ADDRESS: 6330 RIVERSIDE PLAZA LANE NW # 220 PHONE: 440-7262
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87120

ARCHITECT: N/A CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

SURVEYOR: **ALDRICH LAND SURVEYING** CONTACT: TIM ALDRICH
ADDRESS: PO BOX 30701 PHONE: 328-3988
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87190

CONTRACTOR: N/A CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

TYPE OF SUBMITTAL:
_____ DRAINAGE REPORT
_____ DRAINAGE PLAN 1st SUBMITTAL
_____ DRAINAGE PLAN RESUBMITTAL
_____ CONCEPTUAL G & D PLAN
_____ GRADING PLAN
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERT (HYDROLOGY)
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT
_____ ENGINEER/ARCHITECT CERT (TCL)
_____ ENGINEER/ARCHITECT (DRB SITE PLAN)
X_____ OTHER (REVISED G&D PLAN, SUPPL INFO
(Eng. Stamp. 5.6.10)
[COA-Bingham signature - Copy.]

CHECK TYPE OF APPROVAL SOUGHT:
_____ SIA/FINANCIAL GUARANTEE RELEASE
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D APPROVAL
_____ S. DEV. 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
X_____ OTHER (AMENDED PREL.PLAT APPROVAL)

RECEIVED
MAY 18 2010
19 Stt
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:
_____ YES
_____ NO
_____ COPY PROVIDED

SUBMITTED BY: DIANE HOELZER, PE DATE: MAY 19, 2010

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope to the proposed development define 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 subdivision containing more than ten (10) lots or constituting five (5) acres or more.

[redacted]

MARK GOODWIN & ASSOCIATES
CONSULTING ENGINEERS

Supplemental Drainage Information

FOR

Ceja Vista Unit 1, 2, 3
(DRB 1004428)

DIANE HOELZER
NEW MEXICO
11967
LICENSED PROFESSIONAL ENGINEER

4-19-10

Mark Goodwin & Associates, PA
April 2010
DLH

TABLE OF CONTENTS

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II. DESIGN CRITERIA

III. REVISIONS TO THE DRAINAGE PLAN

FIGURE 1: VICINITY MAP
FIGURE 2: DRAINAGE BASIN MAP
FIGURE 3: REVISED INFRASTRUCTURE LIST
FIGURE 4: REVISED PRELIMINARY PLAT

TABLE 1: SUMMARY O F HYDROLOGIC PARAMETERS

APPENDIX A - HYDROLOGY

AHYMO SUMMARY OUTPUT
AHYMO DATA INPUT

APPENDIX B – POND DESIGN

CALCULATIONS

POCKET 1: REVISED GRADING AND DRAINAGE PLAN (2 sheets)

I. REVISED PROJECT DESCRIPTION

The original grading and drainage plan (engineers stamp date 1-22-07) and drainage report was approved by the City Hydrology in a letter dated January 23, 2007. The original preliminary plat and infrastructure list were approved 1-24-07. Construction plans for all three phases were completed and signed off at DRC with the exception of the DRC Chair and the City Engineer. The project has been on hold since then due to the downturn in the economy.

The project is moving forward again, and Unit 3 is now being phased into 5 units to be known as 3A,3B,3C,3D and 3E. An amended preliminary plan, amended infrastructure list and amended grading plan has been recently submitted to the DRB for approval. There have been a couple of changes to the original plan that are discussed and being revised in this report

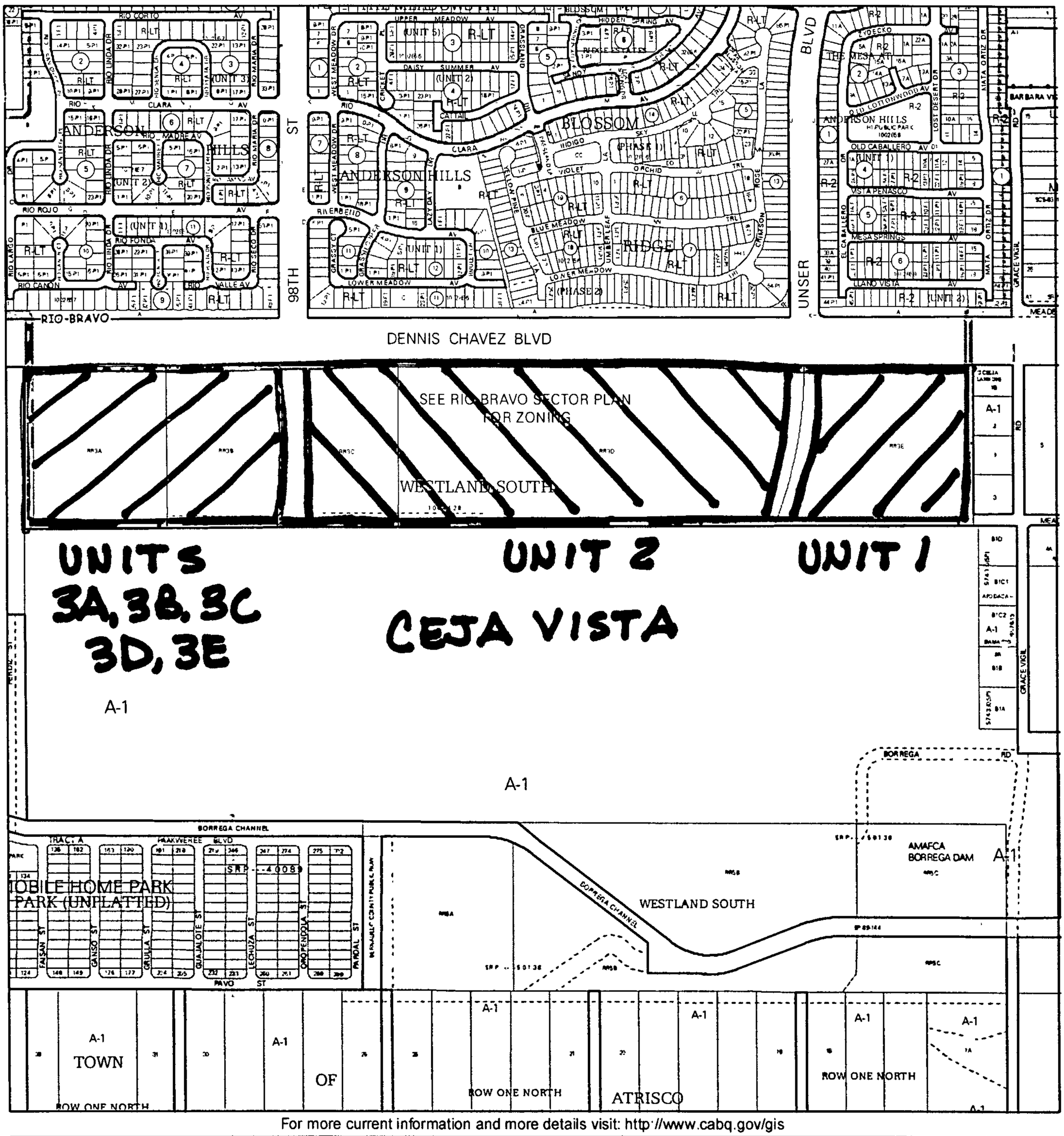
II. DRAINAGE DESIGN CRITERIA

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. Land treatment values were determined using "Table A-5 Percent Treatment D" in the DPM. AHYMO printouts are provided in Appendix A. The temporary retention pond has been sized for the 100 year-10 day storm event.

III. REVISIONS TO THE DRAINAGE PLAN

The overall grading and drainage concept and plan remains unchanged for all three units. The primary revisions in this supplemental report are for Unit 3 only. Unit 3 is now being phased into 5 units. Unit 3A and 3B will be rough graded together. Temporary interim ponds have been designed and sized as shown in the revised grading and drainage plan. The hydrology for all three units is summarized in Table 1 in the report. The AHYMO input and summary files are shown in the appendix A.

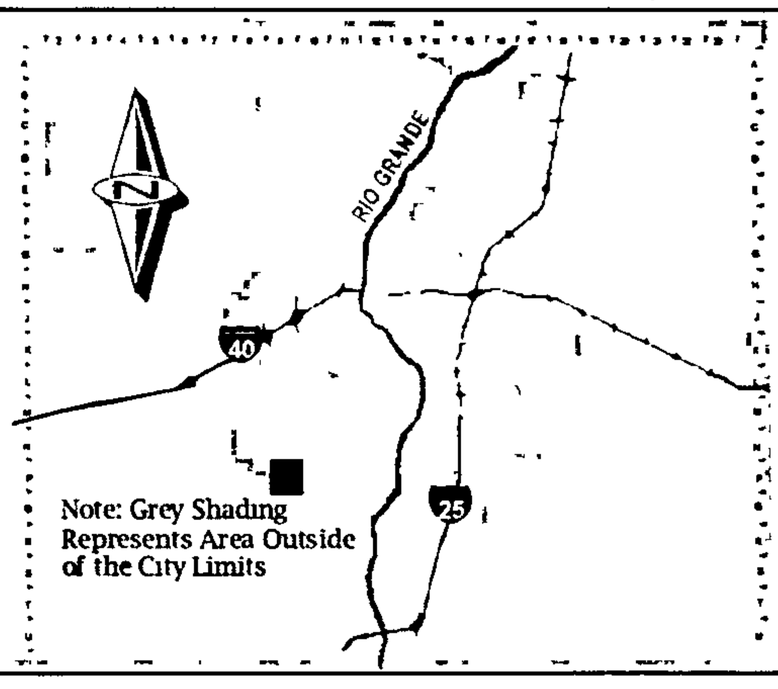
The temporary retention pond that was located in the southeast corner of the Unit 3 project site has been relocated to the southwest corner of the Commercial site in Tract G. All design calculations for the pond are in appendix B. The temporary storm drain connection in Unit 3 has been revised accordingly.



For more current information and more details visit: http://www.cabq.gov/gis

Albuquerque Geographic Information System

Map amended through: **Aug 08, 2006**



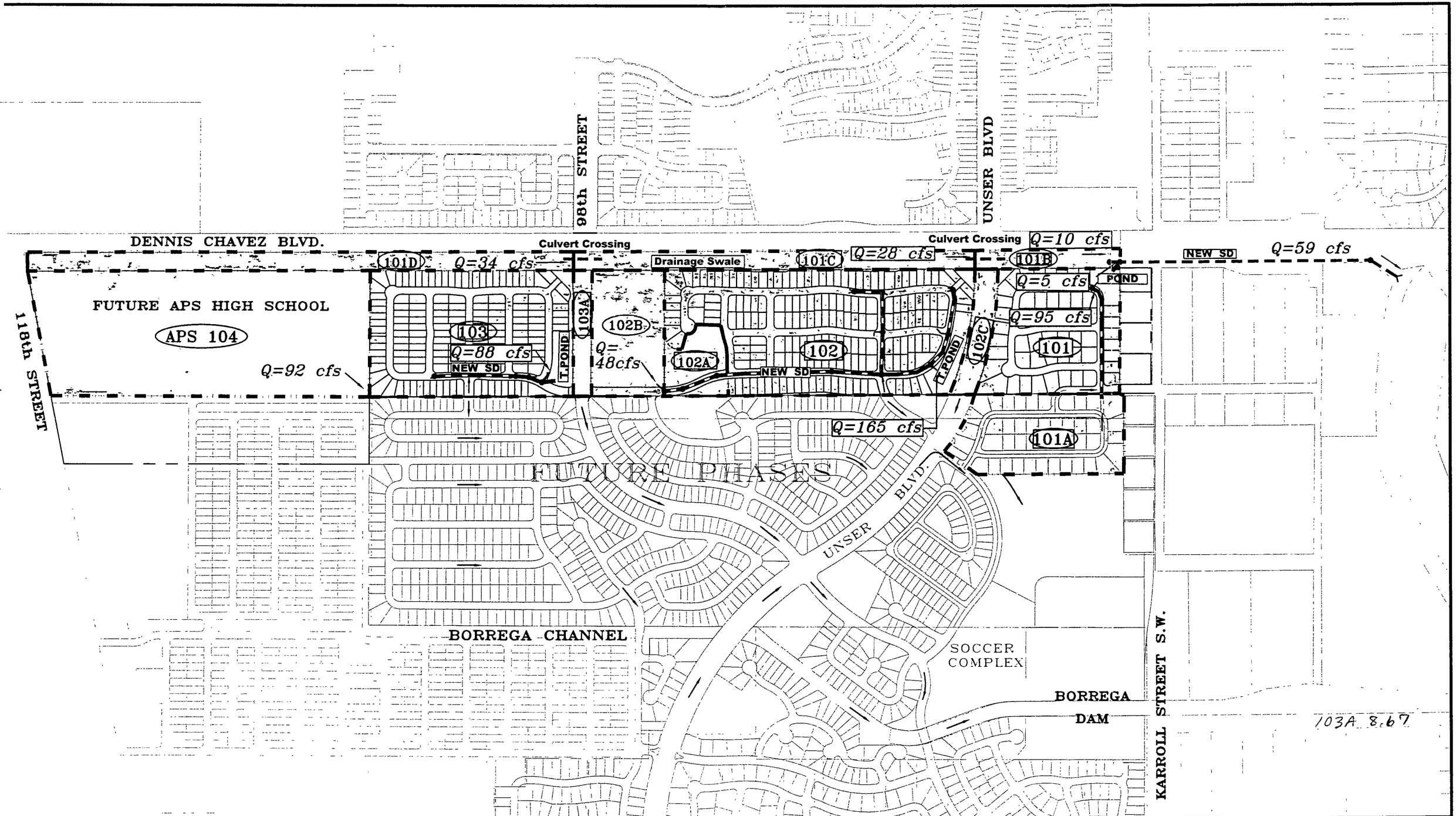
Zone Atlas Page:

P-09-Z

Selected Symbols

- SECTOR PLANS
- Design Overlay Zones
- City Historic Zones
- H-1 Buffer Zone
- Petroglyph Mon.
- Escarpment
- 2 Mile Airport Zone
- Airport Noise Contours
- Wall Overlay Zone

0 750 1,500 Feet



LEGEND

(103) PROPOSED BASIN ID

- - - PROPOSED BASIN BOUNDARY

SCALE: 1" = 600'

CEJA VISTA SUBDIVISION
DEVELOPED CONDITIONS

DRAINAGE BASIN MAP

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

A04jobs\A4095ANS\GRADING & DRAINAGE\DRAINAGE REPORT EXHIBITS\A4095-DBMAP-REV-DLH.dwg\10-16-09\DLH

F :\JBS\ NS\ & I :\Dr Rep bits\ DBM _DL 10/ J 12: PM,

Current DRC
Project Number **797382**

FIGURE 12

Date Submitted **4/19/2010**
Date Site Plan Approved
Date Preliminary Plat Approved
Date Preliminary Plat Expires
DRB Project No : **1004428**
DRB Application No

INFRASTRUCTURE LIST

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

Ceja Vista Units 1, 2, 3A, 3B, 3C, 3D, 3E

PROPOSED NAME OF PLAT AND/OR SITE DEVELOPMENT PLAN

Town of Atrisco Grant Township 9 North, Range 2 East, NMPM, Tracts RR-3-A, RR-3-B, RR-3-C, RR-3-D & RR-3-E, Westland South

EXISTING LEGAL DESCRIPTION PRIOR TO PLATTING ACTION

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 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

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
			UNIT 1						
		26' FF	Res. Pvmt	Pita Verde Rd	Corylus Dr.	Lunaria Dr	/	/	/
			C & G (Both Sides)						
		4' (*)	4' Sidewalk (Both Sides)						
		26' FF	Res Pvmt	Campanula Rd	Corylus Dr.	Lunaria Dr	/	/	/
			C & G (Both Sides)						
		4' (*)	Sidewalk (Both Sides)						
		26' FF	Res Pvmt	Ceja Vista Rd	Corylus Dr	Lunaria Dr	/	/	/
			C & G (Both Sides)						
		4' (*)	Sidewalk (Both Sides)						
		26' FF	Res Pvmt	Corylus Dr	Ceja Vista Rd	Pita Verde Rd	/	/	/
			C & G (Both Sides)						
		4'	Sidewalk (East side)						
		4' (*)	Sidewalk (West Side)						
		26' FF	Res. Pvmt	Lunaria Dr.	Meade Ave	Pita Verde Rd	/	/	/
			C & G (Both Sides)						
		4'	Sidewalk (West side)						
		4' (*)	Sidewalk (East Side)						
		4'	Sidewalk	Tract S					
		28' FF	Res Pvmt	Meade Ave	Lunaria Dr	S Property Line	/	/	/
			C & G (Both Sides)						
		6'	Sidewalk (North Side)						
		28'-32' FF	Res Pvmt	Meade Ave	Lunaria Dr	E to Exist Pvmt	/	/	/
			C & G (Both Sides)						
		6'	Sidewalk (N Side)						
		30' FF	Art Pvmt	E. Half of Unser Blvd	Dennis Chavez	South PL	/	/	/
			C & G (East Side Only), Median Curb						
		10'	Asphalt Trail						
		6'	Asphalt Trail	Tract E	Unser Blvd	Corylus Dr	/	/	/
		6'	Asphalt Trail	Tract S	Pita Verde Rd.	Dennis Chavez	/	/	/

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
			Water						
		16"	Waterline	Unser Blvd	South PL	Dennis Chavez Blvd	/	/	/
		8"	Water Reuse Line	Unser Blvd	South PL	Dennis Chavez Blvd	/	/	/
		8"	Waterline	Pita Verde Rd	Corylus Dr	Lunaria Dr	/	/	/
		8"	Waterline	Ceja Vista Rd	Corylus Dr	Lunaria Dr	/	/	/
		10"	Waterline	Tract R	Unser Blvd	Corylus Dr	/	/	/
		10"	Waterline	Meade Rd	S Property Line	East Property Line	/	/	/
		8"	Waterline	Corylus Dr.	Ceja Vista Rd	Pita Verde Rd	/	/	/
		8"	Waterline	Lunaria Dr	Meade Rd	Pita Verde Rd	/	/	/
		6"	Waterline	Campanula Rd	Corylus Dr	Lunaria Dr.	/	/	/
			Sanitary Sewer						
		10"	SAS	Tract S	Pita Verde Rd	Dennis Chavez R/W Exist. 15" SAS	/	/	/
		8"	SAS	Pita Verde Rd	Corylus Dr	Lunaria Dr.	/	/	/
		8"	SAS	Campanula Rd	Corylus Dr	Lunaria Dr	/	/	/
		8"	SAS	Ceja Vista Rd	Corylus Dr	Lunaria Dr.	/	/	/
		8"	SAS	Corylus Dr	Ceja Vista Rd	Pita Verde Rd	/	/	/
		8"	SAS	Lunaria Dr	Meade Rd	Pita Verde Rd	/	/	/
		8"	SAS	Unser Blvd	Tract R	South P.Line	/	/	/
		8"	SAS	Tract R	Unser Blvd	Corylus Dr	/	/	/
		8"	SAS	Meade Ave	Lunaria Dr	S Property Line	/	/	/
			Storm Drain						
		2 7 Ac-Ft	Public Pond w/Low flow Channel (Work Order)	Tract S			/	/	/
		24" to 48"	Storm Drain	Lunaria Dr	Meade Rd	Pita Verde Rd	/	/	/
		18"	Storm Drain	Tract S	Tract S	Dennis Chavez	/	/	/
		24" to 30"	Storm Drain	Dennis Chavez	Tract S Pond	Hubbel Channel	/	/	/
		24"	Storm Drain	Meade Rd	S Property Line	Lunaria Dr	/	/	/
			UNIT 1 COUNTY IMPROVEMENTS						
			1/4 Signal	Dennis Chavez/Unser Blvd			/	/	/
		12'	Art Pvmt (W Bound Lt Turn)	Dennis Chavez	Condeshire	150 ft East	/	/	/
		12'	Art Pvmt (E. Bound Lt Turn)	Dennis Chavez	Condeshire	75 ft West	/	/	/
		32' FF	Res Pvmt	Meade Rd	East Property Line	Grace Vigil Rd	/	/	/
		28' EE	Surface Pavement	Grace Vigil	Meade Rd	Dennis Chavez	/	/	/
		10'	Asphalt Trail	Dennis Chavez R/W	Unser Blvd	Unit 1 East P L	/	/	/
		6'	Bike Lane	Dennis Chavez R/W	Unser Blvd	Unit 1 East P L	/	/	/
		12'	Striping (W Bound Lt Turn)	Dennis Chavez	Unser Blvd	150 ft East	/	/	/
		12'	Art Pvmt (E Bound Rt Turn)	Dennis Chavez	Unser Blvd.	150 ft West	/	/	/
		6'	Bike Lane	Dennis Chavez	Unser Blvd	150 ft West	/	/	/

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
			UNIT 2						
		28' FF	Res Pvmt	Pita Verde Rd	Berberis St	Potrero Dr	/	/	/
			C & G (Both Sides)						
		4' (*)	Sidewalk (Both Sides)						
		4'	Sidewalk (North side)	Tract J					
		4'	Sidewalk (Norht side)	Tract K					
		26' FF	Res Pvmt	Pita Verde Stub	Potrero Dr	Tract L	/	/	/
			C & G (Both Sides)						
		4' (*)	Sidewalk (North Side Only)						
		28' FF	Res Pvmt	Campanula Rd	Paraje St	Potrero Dr	/	/	/
			C & G (Both Sides)						
		4' (*)	Sidewalk (Both Sides)						
		40' FF	Res Pvmt	Ceja Vista Rd	98th St	Fumaria St.	/	/	/
			C & G (Both Sides)						
		6'	Sidewalk (Both Sides)	Ceja Vista Rd.	98th St	Paraje St.			
		6'	Sidewalk (N Side)	Ceja Vista Rd.	Paraje St	Fumaria St			
		6'(*)	Sidewalk (S Side)	Ceja Vista Rd	Paraje St	Fumaria St			
		6'(*)	Sidewalk (S Side)	Ceja Vista Rd	Paraje St	Fumaria St.			
		28' FF	Res Pvmt	Ceja Vista Rd	Fumaria St	Potrero Dr	/	/	/
			C & G (Both Sides)						
		4' (*)	Sidewalk (Both Sides)						
		32' FF	Res Pvmt	Paraje St.	Ceja Vista Rd	Campanula Rd	/	/	/
			C & G (Both Sides)						
		4' (*)	Sidewalk (East Side)						
		28' FF	Res Pvmt	Paraje St	Campanula Rd	Pita Verde Rd	/	/	/
			C & G (Both Sides)						
		4'	Sidewalk (West side)						
		4' (*)	Sidewalk (East Sides)						
		28' FF	Res Pvmt	Fumaria St	Ceja Vista Rd	Pita Verde Rd	/	/	/
			C & G (Both Sides)						
		4'(*)	Sidewalk (west side)		Ceja Vitsa Rd	Campanula Rd			
		4	Sidewalk (East side)		Ceja Vista Rd	Campanula Rd			
		4'	Sidewalk (Both Sides)		Campanula Rd	Pita Verde Rd			
		28' FF	Res Pvmt	Cuscula St	Ceja Vista Rd	Pita Verde Rd	/	/	/
			C & G (Both Sides)						
		4'	Sidewalk (Both Sides)						
		38' FF	Res Pvmt	Cuscula St	S Property Line	Ceja Vista Rd.	/	/	/
			C & G (Both sides)						
		6'	Sidewalk (Both Sides)						
		28' FF	Res Pvmt	Potrero Dr	Ceja Vista Rd	Pita Verde Rd	/	/	/
			C & G (Both sides)						
		4'(*)	Sidewalk (Both Sides)						
		4'	Sidewalk (West side)	Potrero Dr	Tract N	Pita Verde Rd			

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
		28' FF	Res Pvmt	Berberis St	40' Cul-de-Sac @	Pita Verde Rd	/	/	/
			C & G (Both Sides)		Tract H				
		4'(*)	Sidewalk (Both sides)						
		4'	Sidewalk	Tract H					
		30' FF	Art Pvmt	E Half of 98th St	Ceja Vista Rd	Dennis Chavez Blvd	/	/	/
			C & G (East Side), Median Curb						
		6'	Sidewalk (E Side)						
		30' FF	Art Pvmt	W Half of Unser Blvd	South PL	Dennis Chavez Blvd	/	/	/
			C & G (West Side Only), Median Curb						
		6'	Sidewalk (West Side Only)						
		6'	Asphalt Trail	Tract L	Pita Verde Rd	Unser Blvd	/	/	/
		6'	Asphalt Trail	Tract K	Pita Verde Rd	Dennis Chavez	/	/	/
		6'	Asphalt Trail	Tract J	Pita Verde Rd	Dennis Chavez	/	/	/
		6'	Asphalt Trail	Tract H	Paraje St	Berberis St Cul-de-Sac	/	/	/
		6'	Asphalt Trail	Tract H	Berberis St	Ceja Vista Rd	/	/	/
			Water						
		12"	Waterline (2WR)	Unser Blvd	S. Dennis Chavez	N Dennis Chavez	/	/	/
		12"	Waterline (2WR)	S Dennis Chavez	Tract J	Unser Blvd	/	/	/
		12"	Waterline (2WR)	Tract J	S. Dennis Chavez	Pita Verde Rd	/	/	/
		12"	Waterline (2WR)	Pita Verde Rd	Paraje St	Tract J	/	/	/
		6"	Waterline (2WR)	Pita Verde Rd	Berberis St	Paraje St.	/	/	/
		6"	Waterline (2WR)	Berberis St	Tract H	Pita Verde Rd	/	/	/
		6"	Wateline (2WR)	Tract H	Berberis St	Paraje St	/	/	/
		12"	Waterline (2WR)	Ceja Vista Rd	98th Street (tie in)	Paraje St	/	/	/
		12"	Waterline (2WR)	Paraje St	Ceja Vista Rd	Pita Verde Rd	/	/	/
		4"	Waterline (1W)	Pita Verde Rd	Lot 17, Blk 7	Paraje St	/	/	/
		8"	Waterline (1W)	Pita Verde /Stub/Tract L	Paraje St	Unser Blvd (16"WL)	/	/	/
		6"	Waterline (1W)	Campanula Rd	Paraje St	Potrero Dr	/	/	/
		8"	Waterline (1W)	Ceja Vista Rd	Paraje St	Potrero Dr	/	/	/
		8"	Waterline (1W)	Paraje St	Ceja Vista Rd.	Pita Verde Rd	/	/	/
		6"	Waterline (1W)	Fumaria St	Ceja Vista Rd	Campanula Rd	/	/	/
		8"	Waterlne (1W)	Cuscula St	Ceja Vista Rd	South Property Line	/	/	/
		8"	Waterline (1W)	Potrero Dr	Ceja Vista Rd.	Pita Verde Rd	/	/	/
			Sanitary Sewer						
		8"	SAS	Pita Verde/Stub/Tract L	Berberis St	Unser Blvd (Ex 15")	/	/	/
		8"	SAS	Campanula Rd	Paraje St	Potrero Dr	/	/	/
		8"	SAS	Ceja Vista Dr	Tract G Commercial	Potrero Dr	/	/	/
		8"	SAS	Potrero Dr	Ceja Vista Rd	Pita Verde Rd	/	/	/
		8"	SAS	Paraje St	Ceja Vista Rd	Pita Verde Rd	/	/	/
		8"	SAS	Fumaria	Ceja Vista Rd	Campanula Rd	/	/	/

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
			Storm Drain						
		30" - 48"	Storm Drain	Ceja Vista Rd	Tract G	Potrero Dr	/	/	/
		24" - 30"	Storm Drain	Cuscula St	Ceja Vista Rd	Pita Verde Rd	/	/	/
		18" - 36"	Storm Drain	Potrero Dr	Ceja Vista Rd	Pita Verde Rd	/	/	/
		18" - 24"	Storm Drain	Pita Verde Rd	Lot 7, Blk 12	Cuscula St	/	/	/
		48"	Storm Drain	Tract M	Potrero St		/	/	/
		54"	Storm Drain	Tract M	Unser Blvd		/	/	/
		54"	Storm Drain	Unser Blvd	Tract M	S Property Line	/	/	/
		24"	Storm Drain	Unser Blvd	In D Chavez R/W		/	/	/
		9 0 Ac-Ft Temp Retention Pond w/ A & C		Tract M			/	/	/
			UNIT 2 COUNTY IMPROVEMENTS						
			1/4 Signal	Dennis Chavez/Unser Blvd			/	/	/
			1/4 Signal	Dennis Chavez/98th Street			/	/	/
		10'	Asphalt Trail	Dennis Chavez	98th St	Unser Blvd	/	/	/
		6'	Surface Pvmt (Bike Lane)	Dennis Chavez	98th St. W PL	Unser Blvd E PL	/	/	/
		12'	Art Pvmt (E Bound Rt Turn)	Dennis Chavez	98th Street	150 ft West	/	/	/
		12'	Striping (W Bound Lt Turn)	Dennis Chavez	98th Street	150 ft. East	/	/	/
		12'	Art Pvmt (S. Bound Lt Turn)	98th Street	Dennis Chavez	150 ft North	/	/	/
			C & G						
			UNIT 3A						
		28'-40' FF	Res Pvmt	Ceja Vista Rd	98th St	Lot 6, Blk 1	/	/	/
			C & G						
		4'	Sidewalk (N Side)						
		4' - 6'	Sidewalk (S Side) Tract A						
		6'	Sidewalk (N Side) Tract E						
		4' (*)	Sidewalk (S Side)						
		32' FF	Res Pvmt	Castanea St	Ceja Vista Rd	Pita Verda Rd	/	/	/
			C & G						
		4' (*)	Sidewalk (Both Sides)						
		4'	Sidewalk (E Side) Tract E						
		26' FF	Res Pvmt.	Pita Verde Stub	Castanea St	End Lot 49 50	/	/	/
			C & G						
		4' (*)	Sidewalk (W Side)						
		28' FF	Res Pvmt	Pita Verda Rd	Lot 45, Blk 2	Castanea St	/	/	/
			C & G						
		4'	Sidewalk (S Side)						
		4' (*)	Sidewalk (N Side)						
		114' FF	Art Pvmt	151' of 98th St	D Chavez R/W Line	151' S of R/W Line	/	/	/
			C & G						
		6'	Sidewalk (W Side)						
		42' - 114'	Art Pvmt	158' Transition 98th St	558' North	716' North	/	/	/
			C & G						
		6'	Sidewalk (W Side)						

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
		42' FF	Art Pvmt.	558' W Half 98th St	Ceja Vista Rd	558' North	/	/	/
			C & G						
		6'	Sidewalk (W. Side)						
			UNIT 3 COUNTY IMPROVEMENTS						
		114' FF	Art Pvmt	113' of 98th St	Dennis Chavez Blvd	S D. Chavez R/W Line	/	/	/
			C & G						
		6'	Sidewalk (W Side)						
			Water						
		12"	Waterline	98th St	Exist 12"WL (@ Dennis Chavez)	Ceja Vista Rd	/	/	/
		8"	Waterline	Tract D	98th St	Pita Verde Stub	/	/	/
		8"	Waterline	Pita Verde Stub	Tract D	Castanea St	/	/	/
		8"	Waterline	Pita Verde Rd.	Castanea St	Lot 45, Blk 2	/	/	/
		8"	Waterline	Castanea St	Pita Verde Rd	Ceja Vista Rd	/	/	/
		12"	Waterline	Ceja Vista Rd	98th St	Castanea St	/	/	/
		10"	Waterline	Ceja Vista Rd	Castanea St	Lot 6, Blk1	/	/	/
			Sanitary Sewer						
		8"	SAS	98th St	Exist 15"SAS (@ Dennis Chavez)	Tract D	/	/	/
		8"	SAS	Tract D	98th St	Pita Verde Stub	/	/	/
		8"	SAS	Pita Verde Stub	Tract D	Castanea St	/	/	/
		8"	SAS	Pita Verde Rd	Castanea St	Lot 45, Blk 2	/	/	/
		8"	SAS	Castanea St	Pita Verde Rd	Ceja Vista Rd	/	/	/
		8"	SAS	Ceja Vista Rd	Castanea St	Lot 6, Blk 1	/	/	/
			Storm Drain						
		18"- 42"	Storm Drain	98th St	Near Ceja Vista Rd	S Property Line	/	/	/
		18"-42"	Storm Drain	Ceja Vista Rd	98th St	Lot 6, Blk 1	/	/	/
		18",24"	Storm Drain	Castanea St	Ceja Vista Rd	Lot 12, Blk 6	/	/	/
			UNIT 3B						
		28' FF	Res Pvmt	Ceja Vista Rd	Lot 7, Blk 1	Lot 2, Blk 1	/	/	/
			C & G						
		4'	Sidewalk (N Side)						
		4' (*)	Sidewalk (S Side)						
		28' FF	Res Pvmt	Bonita Azul St	Ceja Vista Rd	Pita Verde Rd	/	/	/
			C & G						
		4' (*)	Sidewalk (Both Sides)						
		28' FF	Res Pvmt	Pita Verde Rd	Lot 46, Blk 2	Lot 40, Blk 2	/	/	/
			C & G						
		4' (*)	Sidewalk (N Side)						
		4'	Sidewalk (S Side)						

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
			Water						
		10"	Waterline	Ceja Vista Rd	Lot 7, Blk 1	Lot 2, Blk 1	/	/	/
		6"	Waterline	Bonita Azul St	Ceja Vista Rd	Pita Verde Rd	/	/	/
		8"	Waterline	Pita Verde Rd	Lot 46, Blk 2	Lot 40, Blk 2	/	/	/
			Sanitar Sewer						
		8"	SAS	Ceja Vista Rd	Lot 7, Blk 1	Lot 2, Blk 1	/	/	/
		8"	SAS	Bonita Azul St	Ceja Vista Rd	Pita Verde Rd	/	/	/
		8"	SAS	Pita Verde Rd.	Lot 46, Blk 2	Lot 40, Blk 2	/	/	/
			Storm Drain						
		30",36"	Storm Drain	Ceja Vista Rd	Lot 7, Blk 1	Lot 2, Blk 1	/	/	/
			UNIT 3C						
		28' FF	Res Pvmt	Ceja Vista Rd	Lot 3, Blk 1	Lot 3, Blk 2	/	/	/
			C & G						
		4'	Sidewalk (N Side)						
		4' (*)	Sidewalk (S Side)						
		28' FF	Res Pvmt	Moquino Dr.	Ceja Vista Rd	Pita Verde Rd	/	/	/
			C & G						
		4' (*)	Sidewalk (Both Sides)						
		4'	Sidewalk (W Side)	Tract F					
		28' FF	Res Pvmt.	Pita Verde Rd	Lot 41, Blk 2	Lot 35, Blk 2	/	/	/
			C & G						
		4' (*)	Sidewalk (N Side)						
		4'	Sidewalk (S Side)						
			Water						
		12"	Waterline	Dennis Chavez	Exist 18" WL(N.Side)	D. Chavez (S Side)	/	/	/
		12"	Waterline	S Side Dennis Chavez	Bore Under D Chavez	Exist 12"WL (@ NW Unit 3E)	/	/	/
			PRV Station	West of Tract B			/	/	/
		12"	Waterline	Tract B	PRV Station	Cerro Blanco St	/	/	/
		10"	Waterline	Cerro Blanco St	Tract B	Ceja Vista Rd	/	/	/
		10"	Waterline	Ceja Vista Rd	Cerro Blanco St	Exist 10"WL(Lot3, B2)	/	/	/
		6"	Waterline	Moquino Dr	Ceja Vista Rd	Pita Verde Rd	/	/	/
		8"	Waterline	Pita Verde Rd	Lot 41, Blk 2	Lot 35, Blk 2	/	/	/
			Sanitary Sewer						
		8"	SAS	Moquino Dr	Ceja Vista Rd	Pita Verde Rd	/	/	/
		8"	SAS	Pita Verde Rd.	Lot 41, Blk 2	Lot 35, Blk 2	/	/	/
		8"	SAS	Ceja Vista Rd	Lot 3, Blk 1	Lot 3, Blk 2	/	/	/
			Storm Drain						
		18",24",30"	Storm Drain	Ceja Vista Rd	Lot 3, Blk 1	Lot 3, Blk 2	/	/	/

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
			UNIT 3D						
		28' FF	Res Pvmt	Ceja Vista Rd.	Lot 2, Blk 2	Lot 9, Blk 2	/	/	/
			C & G						
		4'	Sidewalk (N Side)						
		4' (*)	Sidewalk (S Side)						
		28' FF	Res Pvmt	Encinosa St	Ceja Vista Rd	Pita Verde Rd	/	/	/
			C & G						
		4' (*)	Sidewalk (Both Sides)						
		28' FF	Res Pvmt	Pita Verde Rd	Lot 36, Blk 2	Lot 29, Blk 2	/	/	/
			C & G						
		4' (*)	Sidewalk (N Side)						
		4'	Sidewalk (S Side)						
			Water						
		6"	Waterline	Encinoso St	Ceja Vista Rd	Piat Verde Rd	/	/	/
		8"	Waterline	Pita Verde Rd.	Lot 36, Blk 2	Lot 29, Blk 2	/	/	/
			Sanitary Sewer						
		8"	SAS	Encinoso St	Ceja Vista Rd	Pita Verde Rd	/	/	/
		8"	SAS	Pita Verde Rd	Lot 36, Blk 2	Lot 29, Blk 2	/	/	/
		8"	SAS	Ceja Vista Rd	Lot 2, Blk 2	Lot 9, Blk 2	/	/	/
			Storm Drain						
		18",24"	Storm Drain	Ceja Vista Rd	Lot 2, Blk 2	Lot 9, Blk 2	/	/	/
			UNIT 3E						
		28' FF	Res Pvmt	Ceja Vista Rd	Lot 8, Blk 2	Cerro Blanco St	/	/	/
			C & G						
		4'	Sidewalk (N Side)						
		4' (*)	Sidewalk (S Side)						
		28' FF	Res Pvmt	Cerro Blanco St	Ceja Vista Rd.	Pita Verde Rd	/	/	/
			C & G						
		4' (*)	Sidewalk (Both Sides)						
		28' FF	Res Pvmt	Pita Verde Rd	Lot 30, Blk 2	Cerro Blanco St.	/	/	/
			C & G						
		4' (*)	Sidewalk (N Side)						
		4'	Sidewalk (S Side)						
			Water						
		8"	Waterline	Cerro Blanco St	Tract B	Pita Verde Rd	/	/	/
		8"	Waterline	Pita Verde Rd	Cerro Blanco St	Lot 30, Blk 2	/	/	/

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
			Sanitary Sewer						
		8"	SAS	Pita Verde Rd	Cerro Blanco St	Lot 30, Blk 2	/	/	/
		8"	SAS	Cerro Blanco St	Pita Verde Rd	Lot 10, Blk 3	/	/	/
		8"	SAS	Cerro Blanco St	Lot 14, Blk 2	Ceja Vista Rd	/	/	/
		8"	SAS	Ceja Vista Rd	Cerro Blanco St	Lot 8, Blk 2	/	/	/
			Storm Drain						
		24"	Storm Drain	Ceja Vista Rd	Cerro Blanco St	Lot 8, Blk 2	/	/	/
		24"	Storm Drain	Cerro Blanco St	Tract B	Ceja Vista Rd.	/	/	/
		24"	Storm Drain	Tract B	W Property Line	Cerro Blanco St.	/	/	/

The items listed below are on the CCIP and approved for Impact Fee credits. Signatures from the Impact Fee Administrator and the City User Department is required prior to DRB approval of this listing. The Items listed below are subject to the standard SIA requirements.

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
							/	/	/
							/	/	/

Approval of Creditable Items:

Impact Fee Admistrator Signature Date

Approval of Creditable Items:

City User Dept. Signature Date

NOTES

If the site is located in a floodplain, then the financial guarantee will not be released until the LOMR is approved by FEMA.

Street lights per City rquirements.

(*) Sidewalks are deferred in these areas All others are built with Unit construction plans

1 Landscaping Maintenance Agreement for landscaping in the public right-of-way

2 Walls & landscaping certification from registered engineer and/or registered landscape architect required prior to release of financial guarantees

3 Development Agreement w/ ABCWUA including Don Reservoir as a condition of Final Plats

4 Engineers certification of the grading plan required for release of SIA

AGENT / OWNER

Diane Hoelzer, PE
NAME (print)

Mark Goodwin & Associates, PA
FIRM

Diane Hoelzer 4-19-10
SIGNATURE - date

DEVELOPMENT REVIEW BOARD MEMBER APPROVALS

DRB CHAIR - date

PARKS & GENERAL RECREATION - date

TRANSPORTATION DEVELOPMENT - date

AMAFCA - date

UTILITY DEVELOPMENT - date

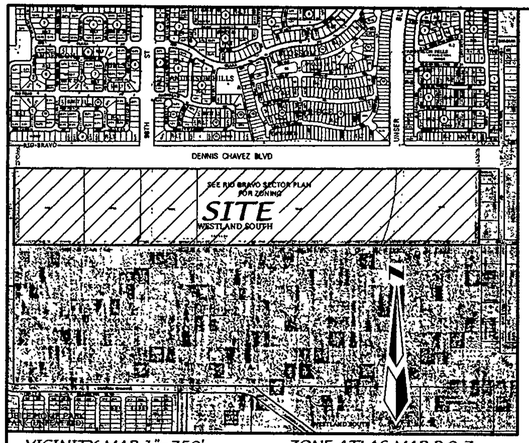
_____ - date

CITY ENGINEER - date

_____ - date

DESIGN REVIEW COMMITTEE REVISIONS

REVISION	DATE	DRC CHAIR	USER DEPARTMENT	AGENT /OWNER



VICINITY MAP 1"=750' ZONE ATLAS MAP P-9-Z

LINE TABLE		
LINE	BEARING	LENGTH
L1	N00°15'29"W	60.00

CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CH-BEARING=	CH-DIST=
C1	865.88	2250.00	22°02'58"	438.37	N10°50'34"E	860.55
C2	47.12	30.00	90°00'00"	30.00	N45°10'55"W	42.43
C3	47.08	30.00	89°55'26"	29.96	N44°46'48"E	42.40

LEGAL DESCRIPTION

A tract of land within the Town of Atrisco Grant, projected Section 9, Township 9 North, Range 2 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being all of TRACTS RR-3-A, RR-3-B, RR-3-C, RR-3-D and RR-3-E, WESTLAND SOUTH as the same is shown and designated on said plat filed for record in the office of the County Clerk of Bernalillo County, New Mexico on November 14, 2005 Bk. 2005C, Pg. 365 and containing 98.9070 acres more or less

PURPOSE OF PLAT

1. SUBDIVIDE TRACTS RR-3A THRU RR-3-E INTO 373 RESIDENTIAL LOTS AND 19 TRACTS.
2. DEDICATE RIGHT-OF-WAY AS SHOWN.
3. GRANT NEW EASEMENTS AS SHOWN.
3. VACATE EASEMENTS AS SHOWN.

AMENDED PRELIMINARY PLAT FOR

CEJA VISTA SUBDIVISION UNITS 1, 2, 3A, 3B, 3C, 3D AND 3E

WITHIN THE
TOWN OF ATRISCO GRANT
PROJECTED SECTION 9
TOWNSHIP 9 NORTH, RANGE 2 EAST, NMPM
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
April, 2010

SUBDIVISION DATA

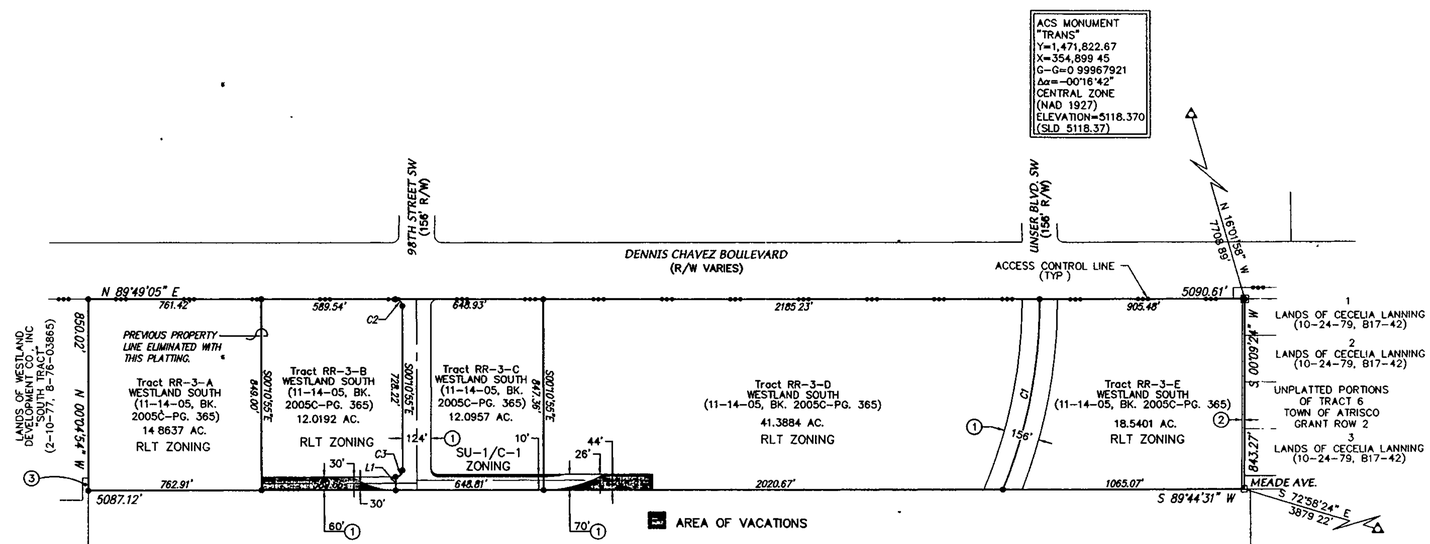
GROSS ACREAGE	98.9070
ZONE ATLAS NO.	P-9-Z
NO. OF LOTS CREATED	373 LOTS
NO. OF TRACTS CREATED	19 TRACTS
RIGHT-OF-WAY AREA DEDICATED TO CITY	22.3278 AC
DATE OF SURVEY	NOVEMBER, 2004
NO. OF LOTS PER UNIT 1/UNIT 2/UNIT	53/172
NO. OF LOTS PER UNIT 3A/UNIT 3B/UNIT 3C/UNIT 3D/UNIT 3E	23/31/28/34/32

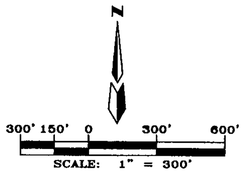
NOTES

1 Beanngs are New Mexico State Plane Grid Beanngs (Central Zone)
2 Distances are ground distances
3 Beanngs and Distances in Parenthesis are record
4 Basis of boundary are the following plats and documents of record entitled:
"BULK LAND PLAT WESTLAND SOUTH, TRACTS RR-3-A, THROUGH RR-3-E", (11-14-05, 2005C-365)
"LANDS OF CECELIA LANNING", (10-24-79, B17-42)
"LAND OF DAMACIO APODACA", (11-08-74, A5-116)
"LAND OF DAMACIO APODACA", (01-08-79, A7-6) QUITCLAIM DEED (01-08-79, A7-6)
"WESTLAND, TRACT RR-5", (03-04-93, 93C-58)
"LANDS OF WESTLAND DEV CO INC, SOUTH TRACT", (02-10-77, CASE 6-76-03865)
"PAKKREWEE", (01-29-01, 01C-38)
"RIGHT OF WAY MAP (SD-4008 (206)", (05-09-94)
Records of Bernalillo County, New Mexico
5 Date of Survey November, 2004
6 Title Report Fidelity National Title Insurance Company Commitment No 04-1048776-B-VG (Effective Date October 7, 2004)
7 Address of Property None provided
8 This property lies within Zone (X) as shown on Panel 338 of 825, Flood Insurance Rate Map, City of Albuquerque, Bernalillo County New Mexico, dated October 13, 2005
10 These tracts are affected by a RIGHT-OF-WAY EASEMENT to American Telephone and Telegraph Company, filed May 17, 1930 recorded in Book 112, Page 290, said easement amended by a MODIFICATION EASEMENT, filed February 13, 1973 recorded in Book Misc 296, Page 635, said easement assigned to the Mountain States Telephone and Telegraph Company by ASSIGNMENT filed December 19, 1977, recorded in Book Misc. 575, Page 928 all being records of Bernalillo County, New Mexico

APS NOTE:

1 THE PROPERTY ON THIS PLAT IS SUBJECT TO A PRE-DEVELOPMENT FACILITIES FEE AGREEMENT WITH THE ALBUQUERQUE PUBLIC SCHOOLS, RECORDED AT (_____)





PROPERTY CORNERS

- FOUND 5/8" REBAR WITH CAP "LS 15702"
- FOUND 1/2" REBAR
- FOUND/SET 5/8" REBAR WITH CAP "ALS LS 7719"
- FOUND 5/8" REBAR WITH CAP "LS 14733"

EASEMENTS

1. EXISTING PUBLIC ACCESS, DRAINAGE, SANITARY SEWER AND WATER LINE EASEMENTS (11-14-05, BK. 2005C-PG. 365) (PORTIONS VACATED WITH THIS PLAT)
2. 10' PUBLIC UTILITY EASEMENT (11-14-05, BK. 2005C-PG. 365)
3. EXISTING 50' AMAFCA R/W DRAINAGE (05-13-99, 99C-119)

NOTES

1. UNLESS OTHERWISE NOTED, ALL BOUNDARY CORNERS SHOWN THUS ● SHALL BE MARKED BY A #5 REBAR W/CAP STAMPED PS#7719
2. ALL STREET CENTERLINE MONUMENTATION SHALL BE INSTALLED AT ALL CENTERLINE PC'S, PT'S, ANGLE POINTS, AND STREET INTERSECTIONS AND SHOWN THUS ▲, WILL BE MARKED BY A FOUR INCH (4") ALUMINUM CAP STAMPED:
"CITY OF ALBUQUERQUE CENTERLINE MONUMENTATION"
"DO NOT DISTURB" PS#7719"
3. BOUNDARY SHALL BE TIED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM AS SHOWN
4. BASIS OF BEARING SHALL BE NEW MEXICO STATE PLANE GRID BEARINGS.
5. ALL DISTANCES SHALL BE GROUND DISTANCES.
6. MANHOLES WILL BE OFFSET AT ALL POINTS OF CURVATURE, POINTS OF TANGENCY, STREET INTERSECTIONS, AND ALL OTHER ANGLE POINTS TO ALLOW USE OF CENTERLINE MONUMENTATION.
7. ALL PROPOSED LOTS CONTAINED WITHIN THIS SUBDIVISION ARE A MINIMUM OF 40 FEET WIDE AND A MINIMUM OF 4000 SF IN SIZE.

OWNERS

ALBUQUERQUE RIO BRAVO PARTNERS LLC
6330 RIVERSIDE PLAZA LANE N.W.
STE 220
ALBUQUERQUE, N.M. 87102
(505) 898-5051

SITE BENCHMARK

ACS MONUMENT
"3-P10"
ELEVATION=4935.735
(SLD 1929)

ENGINEERS

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

SURVEYOR

ALDRICH LAND SURVEY
P.O. BOX 30701
ALBUQUERQUE, N.M. 87190-0701
(505) 884-1990

APPROVED

4-15-10
City Surveyor, City of Albuquerque, N.M. Date

Albuquerque Rio Bravo Partners LLC
4/14/10
William Allen, Authorized Agent Date

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NOTES:

1. The following Tracts have been created for the following purposes:

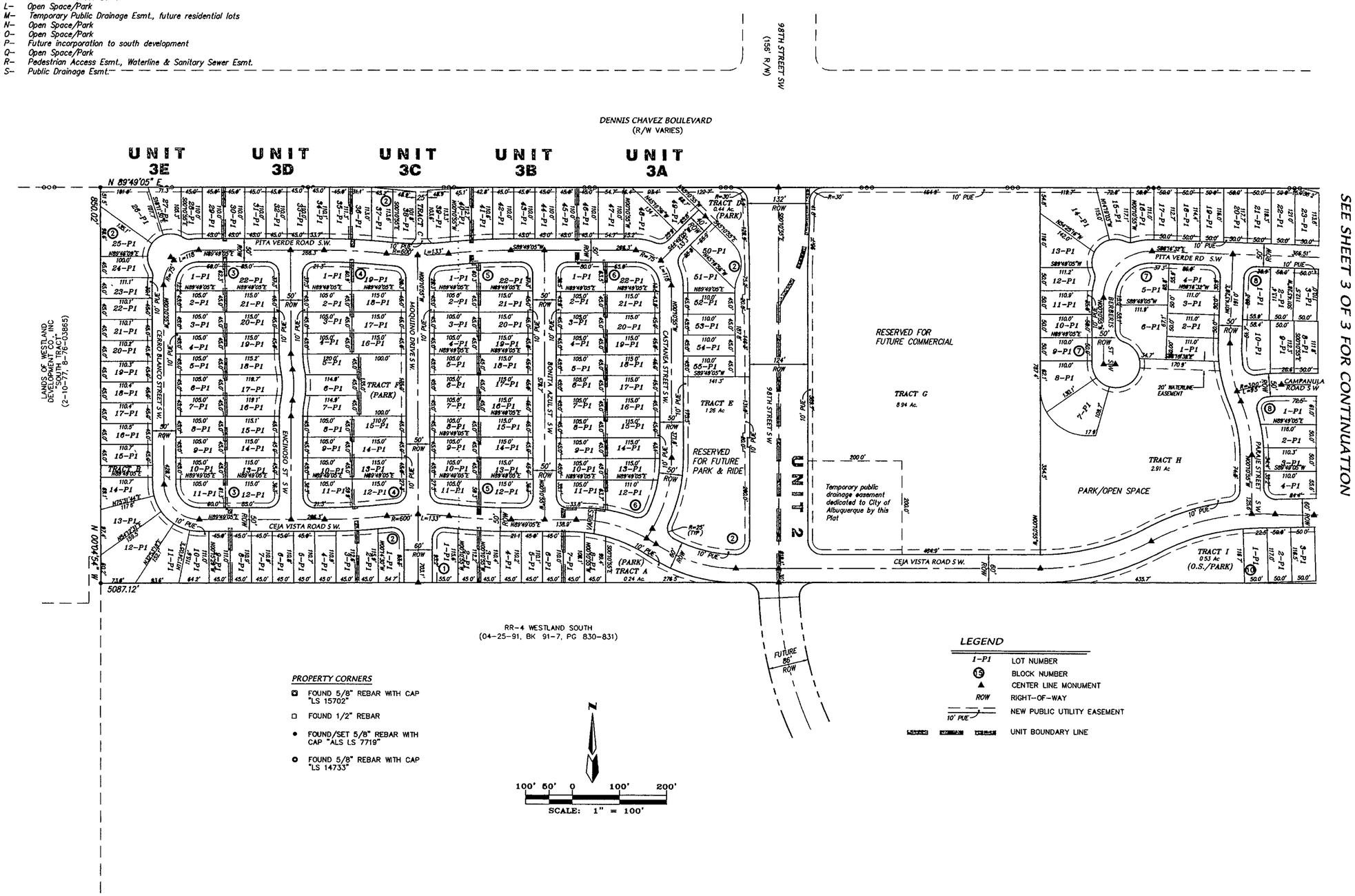
   Tract A– Open Space/Park
   Tract B– Pedestrian Access Esmt., Waterline & Drainage Esmt.
   Tract C– Pedestrian Access Esmt.
   Tract D– Open Space, Waterline & Sanitary Sewer Esmt.
   Tract E– Future C.O.A. "Park and Ride"
   Tract F– Open Space/Park
   Tract G– Future commercial development
   Tract H– Open Space/Park
   Tract I– Open Space/Park
   Tract J– Pedestrian Access Esmt., Waterline esmt.
   Tract K– Pedestrian Access Esmt.
   Tract L– Open Space/Park
   Tract M– Temporary Public Drainage Esmt., future residential lots
   Tract N– Open Space/Park
   Tract O– Open Space/Park
   Tract P– Future incorporation to south development
   Tract Q– Open Space/Park
   Tract R– Pedestrian Access Esmt., Waterline & Sanitary Sewer Esmt.
   Tract S– Public Drainage Esmt.

2. All waterline and sanitary sewer easements are granted to A.B.C.W.U.A.
3. All drainage easements and pedestrian access easements are granted to the City of Albuquerque
4. Tracts A. B. C. D. F. H. I. J. K. L. N. O. Q. R are owned by and to be maintained by the Ceja Vista Homewmners Association.
5. Tracts E, G, M and P are to be owned and maintained by the subdivider until such a time as the property has been conveyed or developed for the future intended purpose.
6. Tract S is to be owned and maintained by the City of Albuquerque for a permanent detention pond.

AMENDED PRELIMINARY PLAT FOR

CEJA VISTA SUBDIVISION
UNITS 1, 2, 3A, 3B, 3C, 3D AND 3E

WITHIN THE
TOWN OF ATRISCO GRANT
PROJECTED SECTION 9
TOWNSHIP 9 NORTH, RANGE 2 EAST, NMPM
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
April, 2010



SEE SHEET 3 OF 3 FOR CONTINUATION

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NOTES:

1. The following Tracts have been created for the following purposes:

Tract A– Open Space/Park
Tract B– Pedestrian Access Esmt., Waterline & Drainage Esmt.
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Tract H– Open Space/Park
Tract I– Open Space/Park
Tract J– Pedestrian Access Esmt., Waterline esmt.
Tract K– Pedestrian Access Esmt.
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5 Tracts E, G, M and P are to be owned and maintained by the subdivider until such a time as the property has been conveyed or developed for the future intended purpose.

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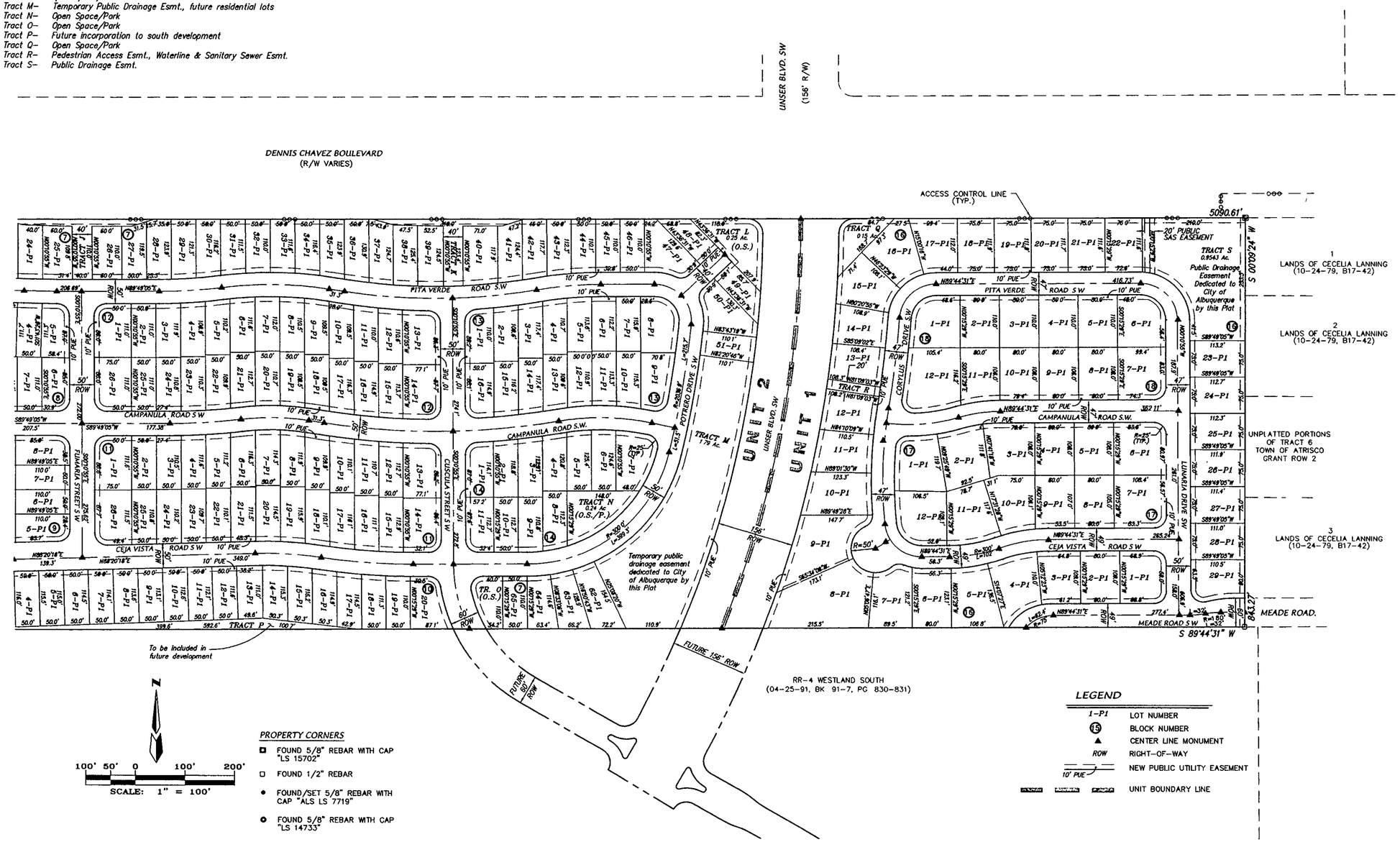
AMENDED PRELIMINARY PLAT FOR

CEJA VISTA SUBDIVISION
UNITS 1, 2, 3A, 3B, 3C, 3D AND 3E

WITHIN THE
TOWN OF ATRISCO GRANT
PROJECTED SECTION 9
TOWNSHIP 9 NORTH, RANGE 2 EAST, NMPM
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
April, 2007



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CEJA VISTA SUBDIVISION

TABLE 1: SUMMARY OF HYDROLOGIC PARAMETERS

SUB-BASIN ID	DESCRIPTION	AREA (sq.mi)	AREA (acres)	Land Treat A	Land Treat B	Land Treat C	Land Treat D	Q(100) cfs	RUNOFF VOL. (AF)
101	SUBDIVISION N.	0.02654	16.9851	0	33.5	33.5	33.0	**52.6**	**1.707**
101A	SUBDIVISION S.	0.02141	13.703	0	33.5	33.5	33.0	**42.5**	**1.377**
101B	DENNIS CHAVEZ E.	0.00442	2.8314	0	25	25	50	**10.2**	**0.351**
101C	DENNIS CHAVEZ N.	0.01224	7.8338	0	25	25	50	**28.3**	**0.972**
101D	DENNIS CHAVEZ W.	0.01651	10.5695	0	25	25	50	**34.7**	**1.311**
102	SUBDIVISION	0.05734	36.6998	0	25	26	49	**124.7**	**4.263**
102A	OPEN SPACE	0.00455	2.9143	0	95	0	5	**6.4**	**0.179**
102B	COMMERCIAL TRACT G	0.01499	9.5907	0	10	10	80	**38.1**	**1.402**
102C	UNSER BLVD. R/W	0.00485	3.1011	0	20	20	60	**11.2**	**0.393**
103	SUBDIVISION	0.04136	26.4687	0	21.5	21.5	57	**93.7**	**3.277**
103A	98TH ST. R/W	0.00341	2.18054	0	10	10	80	**8.7**	**0.319**
103B	TRACT E (TEMP)	0.00197	1.26	100	0	0	0	**1.7**	**0.047**

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APPENDIX A

HYDROLOGY

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02d RUN DATE (MON/DAY/YR) =04/20/2010
INPUT FILE = CEJA.DAT USER NO.= AHYMO-I-9702dGoodwinM-AH

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	
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	2.220
COMPUTE NM HYD	101.SUB	-	2	.02654	52.64	1.707	1.20598	1.500	3.099	PER IMP=	33.00
COMPUTE NM HYD	101.SUB	-	1	.02141	42.47	1.377	1.20598	1.500	3.099	PER IMP=	33.00
ADD HYD	101.10	1& 2	3	.04795	95.10	3.084	1.20597	1.500	3.099		
ROUTE RESERVOIR	POND.OUT	3	20	.04795	4.78	2.944	1.15131	2.250	.156	AC-FT=	2.611
SEDIMENT BULK										PK BF =	1.06
COMPUTE NM HYD	101.D	-	1	.01651	34.69	1.311	1.48831	1.500	3.283	PER IMP=	50.00
SEDIMENT BULK										PK BF =	1.06
COMPUTE NM HYD	101.C	-	2	.01224	28.34	.972	1.48831	1.500	3.618	PER IMP=	50.00
ADD HYD	101.20	1& 2	3	.02875	63.04	2.282	1.48829	1.500	3.426		
SEDIMENT BULK										PK BF =	1.06
COMPUTE NM HYD	101.B	-	1	.00442	10.24	.351	1.48831	1.500	3.622	PER IMP=	50.00
SEDIMENT BULK										PK BF =	1.00
ADD HYD	101.30	1& 3	2	.03317	73.28	2.633	1.48828	1.500	3.452		
ADD HYD	101.40	2&20	30	.08112	74.71	5.577	1.28910	1.500	1.439		
SEDIMENT BULK										PK BF =	1.00
COMPUTE NM HYD	102.00	-	1	.05734	124.68	4.263	1.39398	1.500	3.397	PER IMP=	49.00
SEDIMENT BULK										PK BF =	1.00
COMPUTE NM HYD	102.A	-	1	.00455	6.39	.179	.73858	1.500	2.195	PER IMP=	5.00
SEDIMENT BULK										PK BF =	1.00
COMPUTE NM HYD	102.B	-	1	.01499	38.05	1.402	1.75363	1.500	3.966	PER IMP=	80.00
SEDIMENT BULK										PK BF =	1.00
COMPUTE NM HYD	102.C	-	1	.00485	11.18	.393	1.52059	1.500	3.601	PER IMP=	60.00
SEDIMENT BULK										PK BF =	1.00
COMPUTE NM HYD	103.TOT	-	1	.04136	93.74	3.277	1.48563	1.500	3.541	PER IMP=	57.00
SEDIMENT BULK										PK BF =	1.00
COMPUTE NM HYD	103.A	-	1	.00341	8.67	.319	1.75363	1.500	3.971	PER IMP=	80.00
SEDIMENT BULK										PK BF =	1.00
COMPUTE NM HYD	103.B	-	1	.00197	1.69	.047	.44507	1.500	1.339	PER IMP=	.00
FINISH											

```
START                TIME=0.0
*****    CEJA VISTA SUBDIVISION 100-YEAR 6-HOUR STORM EVENT
*****    FILE: CEJA.DAT  APRIL 20 2010 BY:DLH
*****    ZONE ATLAS: P-9
RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN
                     RAIN ONE=1.87 IN RAIN SIX=2.22 IN
                     RAIN DAY=2.70 IN DT=0.05 HR
*****
***** ************************
***** CEJA VISTA UNIT 1
***** ************************
***** SUBASIN 101
***** 16.9851 ACRES
***** ************************
*****
COMPUTE NM HYD       ID=2 HYD NO=101.SUB AREA=0.02654 SQ MI
                     PER A=0 PER B=33.5 PER C=33.5 PER D=33
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
***** ************************
***** SUBASIN 101A
***** 13.7030 ACRES
***** ************************
*****
COMPUTE NM HYD       ID=1 HYD NO=101.SUB AREA=0.02141 SQ MI
                     PER A=0 PER B=33.5 PER C=33.5 PER D=33
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
*****
ADD HYD              ID=3 HYD=101.1  I=1  II=2
PRINT HYD            ID=3 CODE=1
*****
ROUTE RESERVOIR      ID=20  HYD NO=POND.OUT  INFLOW=3  CODE=10
                     OUTFLOW(CFS)      STORAGE(AF)  ELEV(FT)
                     0.00              0.00         90.00
                     0.50              0.46         91.00
                     1.50              0.96         92.00
                     2.50              1.51         93.00
                     3.75              2.10         94.00
                     4.75              2.59         94.75
                     5.00              2.75         95.00
                     50.00             3.09         95.50
PRINT HYD            ID=20  CODE=10
***** ************************
***** SUBASIN 101D (WEST DENNIS CHAVEZ)
***** 10.5695 ACRES
***** ************************
*****
SEDIMENT BULK        CODE=1     BULK FACTOR=1.06
COMPUTE NM HYD       ID=1 HYD NO=101.D AREA=0.01651 SQ MI
                     PER A=0 PER B=25 PER C=25 PER D=50
                     TP=0.1527 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
***** ************************
```

```
***** SUBASIN 101C (MID DENNIS CHAVEZ)
***** 7.8338 ACRES
***** ************************
*****
SEDIMENT BULK        CODE=1     BULK FACTOR=1.06
COMPUTE NM HYD       ID=2 HYD NO=101.C AREA=0.01224 SQ MI
                     PER A=0 PER B=25 PER C=25 PER D=50
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
*****
ADD HYD              ID=3 HYD=101.2  I=1  II=2
PRINT HYD            ID=3 CODE=1
***** ************************
***** SUBASIN 101B (EAST DENNIS CHAVEZ)
***** 2.8314 ACRES
***** ************************
*****
SEDIMENT BULK        CODE=1     BULK FACTOR=1.06
COMPUTE NM HYD       ID=1 HYD NO=101.B AREA=0.00442 SQ MI
                     PER A=0 PER B=25 PER C=25 PER D=50
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
*****
SEDIMENT BULK        CODE=1     BULK FACTOR=1.00
ADD HYD              ID=2 HYD=101.3  I=1  II=3
PRINT HYD            ID=2 CODE=1
*****
ADD HYD              ID=30 HYD=101.4  I=2  II=20
PRINT HYD            ID=30 CODE=1
***** ************************
***** SUBASIN 102 - UNIT 2
***** 36.6998 ACRES
***** ************************
*****
SEDIMENT BULK        CODE=1     BULK FACTOR=1.00
COMPUTE NM HYD       ID=1 HYD NO=102.0 AREA=0.05734 SQ MI
                     PER A=0 PER B=25 PER C=26 PER D=49
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
***** ************************
***** SUBASIN 102A - PARK AND OPEN SPACE
***** 2.9143 ACRES
***** ************************
*****
SEDIMENT BULK        CODE=1     BULK FACTOR=1.00
COMPUTE NM HYD       ID=1 HYD NO=102.A AREA=0.00455 SQ MI
                     PER A=0 PER B=95 PER C=0 PER D=5
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
***** ************************
***** SUBASIN 102B COMMERCIAL
***** 9.5907 ACRES
***** ************************
*****
```

```
SEDIMENT BULK        CODE=1     BULK FACTOR=1.00
COMPUTE NM HYD       ID=1 HYD NO=102.B AREA=0.01499 SQ MI
                     PER A=0 PER B=10 PER C=10 PER D=80
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
***** ************************
***** SUBASIN 102C (UNSER BLVD)
***** 3.1011 ACRES
***** ************************
*****
SEDIMENT BULK        CODE=1     BULK FACTOR=1.00
COMPUTE NM HYD       ID=1 HYD NO=102.C AREA=0.00485 SQ MI
                     PER A=0 PER B=20 PER C=20 PER D=60
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
***** ************************
***** SUBASIN 103
***** UNIT 3
***** 26.4687 ACRES
***** PER DLH
***** ************************
*****
SEDIMENT BULK        CODE=1     BULK FACTOR=1.00
COMPUTE NM HYD       ID=1 HYD NO=103.TOT AREA=0.04136 SQ MI
                     PER A=0 PER B=21.5 PER C=21.5 PER D=57
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
***** ************************
***** SUBASIN 103A
***** 98 TH STREET
***** 2.18054 ACRES /2 = 1 ac = 4 c h
*****
***** ************************
*****
SEDIMENT BULK        CODE=1     BULK FACTOR=1.00
COMPUTE NM HYD       ID=1 HYD NO=103.A AREA=0.00341 SQ MI
                     PER A=0 PER B=10 PER C=10 PER D=80
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
***** ************************
***** SUBASIN 103B
***** TRACT E
***** 1.26 ACRES
*****
***** ************************
*****
SEDIMENT BULK        CODE=1     BULK FACTOR=1.00
COMPUTE NM HYD       ID=1 HYD NO=103.B AREA=0.00197 SQ MI
                     PER A=100 PER B=0 PER C=0 PER D=0
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
FINISH
```

```
START                TIME=0.0
*****    CEJA VISTA SUBDIVISION 100-YEAR 6-HOUR STORM EVENT
*****    FILE: CEJA.DAT  APRIL 7 2010 BY:DLH
*****    ZONE ATLAS: P-9
RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN
                     RAIN ONE=1.87 IN RAIN SIX=2.22 IN
                     RAIN DAY=2.70 IN DT=0.05 HR
*****
***** ************************
***** CEJA VISTA UNIT 3B,C,D,E
***** ************************
***** SUBASIN 100
***** 20.4352 ACRES
***** ************************
*****
COMPUTE NM HYD       ID=2 HYD NO=100.BCDE AREA=0.03193 SQ MI
                     PER A=90 PER B=10 PER C=0 PER D=0
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
***** ************************
***** CEJA VISTA UNIT 3C,D,E
***** ************************
***** SUBASIN 100
***** 15.6686 ACRES
***** ************************
*****
COMPUTE NM HYD       ID=2 HYD NO=100.CDE AREA=0.02448 SQ MI
                     PER A=90 PER B=10 PER C=0 PER D=0
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
***** ************************
***** CEJA VISTA UNIT 3D,E
***** ************************
***** SUBASIN 100
***** 10.5335 ACRES
***** ************************
*****
COMPUTE NM HYD       ID=2 HYD NO=100.DE AREA=0.01646 SQ MI
                     PER A=90 PER B=10 PER C=0 PER D=0
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
***** ************************
***** CEJA VISTA UNIT 3E
***** ************************
***** SUBASIN 100
***** 5.2238 ACRES
***** ************************
*****
COMPUTE NM HYD       ID=2 HYD NO=100.E AREA=0.00816 SQ MI
                     PER A=90 PER B=10 PER C=0 PER D=0
                     TP=0.13 HR MASS RAINFALL=-1
PRINT HYD            ID=2 CODE=1
FINISH
```

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02d RUN DATE (MON/DAY/YR) =04/07/2010
INPUT FILE = CEJA3B_E.DAT USER NO.= AHYMO-I-9702dGoodwinM-AH

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	
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	2.220
COMPUTE NM HYD	100.BCDE	-	2	.03193	28.56	.789	.46336	1.500	1.398	PER IMP=	.00
COMPUTE NM HYD	100.CDE	-	2	.02448	21.90	.605	.46336	1.500	1.398	PER IMP=	.00
COMPUTE NM HYD	100.DE	-	2	.01646	14.73	.407	.46336	1.500	1.398	PER IMP=	.00
COMPUTE NM HYD	100.E	-	2	.00816	7.30	.202	.46336	1.500	1.399	PER IMP=	.00
FINISH											

APPENDIX B

POND DESIGN

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

PROJECT Ceja Vista Unit 3
SUBJECT Pond Calculations
BY DLH DATE 4-13-10
CHECKED _____ DATE _____
SHEET ____ OF ____

Temporary Pond 1 - Commercial Site - Calculations.

AHYMO results for runoff volume:

Volume(100yr) = 3.277 AF Unit 3 (Developed)

Volume(100yr) = 0.319 AF 98th st (Developed)

3.596 AF

$V_{10DAY} = V_{360} + A_D(P_{10DAY} - P_{360})/12$ $\quad P_{10DAY} = 10 - \left(\frac{24.9}{P_{24}^{1.4}}\right)$

$V_{10DAY} = 3.596 + (15.0872 + 1.7444)\frac{(3.8 - 2.22)}{12}$ $\quad P_{10DAY} = 10 - \left(\frac{24.9}{2.7^{1.4}}\right)$

$V_{10} = 3.596 + (16.8316)\frac{(1.58)}{12} = 5.81216$ AF $\quad P_{10DAY} = 3.80$

$V_{10} = 5.81216$ AF $= 253{,}177$ CF

33,820 CF (DEVELOPED APS-POND-100yr)

Volume(required) = 286,998 CF (temp. pond 1)

@(9' DEEP)(31,888.67 SF)

Pond Design Dimensions = 206'x206' Top
152'x152' Bottom
9' deep, 3:1 side slopes
Top Elev. = 5077'
Bottom Elev. = 5068'

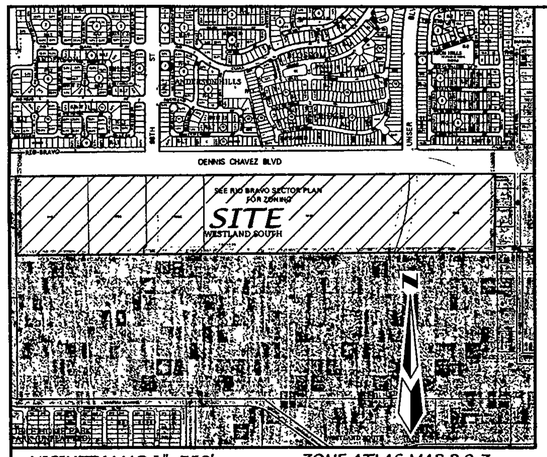
$A_{TOP} = 41{,}810$ SF

$A_{Bottom} = 23{,}104$ SF

$\text{Volume(design)} = \frac{1}{3}(\text{depth})(A_T + A_B + \sqrt{A_T \cdot A_B})$

$\text{Volume(design)} = \frac{1}{3}(9)(41{,}810 + 23{,}104 + \sqrt{A_T \cdot A_B})$

$= 287{,}982$ CF $= 6.611$ AF



VICINITY MAP 1"=750' ZONE ATLAS MAP P-9-Z

LINE TABLE		
LINE	BEARING	LENGTH
L1	N00°15'29"W	60.00

CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CH-BEARING=	CH-DIST=
C1	865.88	2250.00	22°02'58"	438.37	N10°50'34"E	860.55
C2	47.12	30.00	90°00'00"	30.00	N45°10'55"W	42.43
C3	47.08	30.00	89°55'26"	29.96	N44°46'48"E	42.40

LEGAL DESCRIPTION

A tract of land within the Town of Atrisco Grant, projected Section 9, Township 9 North, Range 2 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being all of TRACTS RR-3-A, RR-3-B, RR-3-C, RR-3-D and RR-3-E, WESTLAND SOUTH as the same is shown and designated on said plat filed for record in the office of the County Clerk of Bernalillo County, New Mexico on November 14, 2005 Bk. 2005C, Pg. 365 and containing 98.9070 acres more or less

PURPOSE OF PLAT

1. SUBDIVIDE TRACTS RR-3A THRU RR-3-E INTO 373 RESIDENTIAL LOTS AND 19 TRACTS.
2. DEDICATE RIGHT-OF-WAY AS SHOWN.
3. GRANT NEW EASEMENTS AS SHOWN.
4. VACATE EASEMENTS AS SHOWN.

AMENDED PRELIMINARY PLAT FOR

CEJA VISTA SUBDIVISION
UNITS 1A, 1B, 1C, 1D, 1E, 2 AND 3

WITHIN THE
TOWN OF ATRISCO GRANT
PROJECTED SECTION 9
TOWNSHIP 9 NORTH, RANGE 2 EAST, NMPM
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
April, 2010

SUBDIVISION DATA

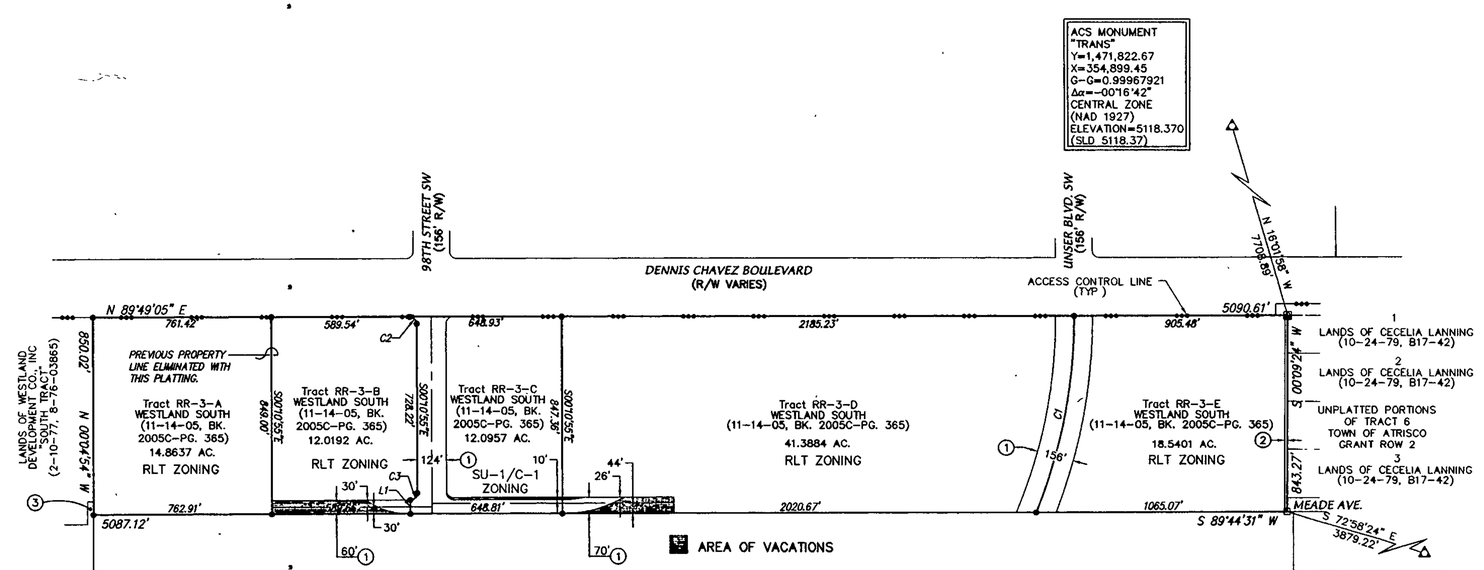
GROSS ACREAGE	98.9070
ZONE ATLAS NO.	P-9-Z
NO. OF LOTS CREATED	373 LOTS
NO. OF TRACTS CREATED	19 TRACTS
RIGHT-OF-WAY AREA DEDICATED TO CITY	22.3278 AC
DATE OF SURVEY	NOVEMBER, 2004
NO. OF LOTS PER UNIT 2/UNIT 3	172/53
NO. OF LOTS PER UNIT 1A/UNIT 1B/UNIT 1C/UNIT 1D/UNIT 1E	22/32/28/34/32

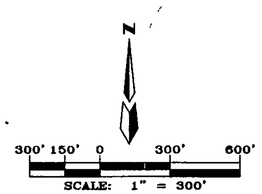
NOTES

1 Bearings are New Mexico State Plane Grid Bearings (Central Zone).
2 Distances are ground distances
3 Bearings and Distances in Parenthesis are record
4 Basis of boundary are the following plats and documents of record entitled
"BULK LAND PLAT WESTLAND SOUTH, TRACTS RR-3-A, THROUGH RR-3-E", (11-14-05, 2005C-365)
"LANDS OF CECELIA LANNING", (10-24-79, B17-42)
"LAND OF DAMACIO APODACA", (11-08-74, A5-116)
"LAND OF DAMACIO APODACA", (01-08-79, A7-6) QUITCLAIM DEED (01-08-79, A7-6)
"WESTLAND, TRACT RR-5", (03-04-93, 93C-58)
"LANDS OF WESTLAND DEV. CO INC, SOUTH TRACT", (02-10-77, CASE 8-76-03865)
"PAKKREWEE", (01-29-01, 01C-38)
"RIGHT OF WAY MAP (SD-4008 (206))", (05-09-94)
Records of Bernalillo County, New Mexico.
5. Date of Survey November, 2004.
6 Title Report Fidelity National Title Insurance Company Commitment No 04-1048776-B-VG (Effective Date October 7, 2004)
7 Address of Property: None provided
8 This property lies within Zone (X) as shown on Panel 338 of 825, Flood Insurance Rate Map, City of Albuquerque, Bernalillo County New Mexico, dated October 13, 2005
10. These tracts are affected by a RIGHT-OF-WAY EASEMENT to American Telephone and Telegraph Company, filed May 17, 1930 recorded in Book 112, Page 290, said easement amended by a MODIFICATION EASEMENT, filed February 13, 1973 recorded in Book Misc. 298, Page 835, said easement assigned to the Mountain States Telephone and Telegraph Company by ASSIGNMENT filed December 19, 1977, recorded in Book Misc. 575, Page 928 all being records of Bernalillo County, New Mexico

APS NOTE:

1 THE PROPERTY ON THIS PLAT IS SUBJECT TO A PRE-DEVELOPMENT FACILITIES FEE AGREEMENT WITH THE ALBUQUERQUE PUBLIC SCHOOLS, RECORDED AT (_____)





PROPERTY CORNERS

- ◘ FOUND 5/8" REBAR WITH CAP "LS 15702"
- □ FOUND 1/2" REBAR
- ● FOUND/SET 5/8" REBAR WITH CAP "ALS LS 7719"
- ○ FOUND 5/8" REBAR WITH CAP "LS 14733"

EASEMENTS

1. EXISTING PUBLIC ACCESS, DRAINAGE, SANITARY SEWER AND WATER LINE EASEMENTS (11-14-05, BK. 2005C-PG. 365) (PORTIONS VACATED WITH THIS PLAT)
2. 10' PUBLIC UTILITY EASEMENT (11-14-05, BK. 2005C-PG. 365)
3. EXISTING 50' AMAFCA R/W DRAINAGE (05-13-99, 99C-119)

NOTES

1. UNLESS OTHERWISE NOTED, ALL BOUNDARY CORNERS SHOWN THUS ● SHALL BE MARKED BY A #5 REBAR W/CAP STAMPED PS#7719
2. ALL STREET CENTERLINE MONUMENTATION SHALL BE INSTALLED AT ALL CENTERLINE PC'S, PT'S, ANGLE POINTS, AND STREET INTERSECTIONS AND SHOWN THUS ▲, WILL BE MARKED BY A FOUR INCH (4") ALUMINUM CAP STAMPED:
"CITY OF ALBUQUERQUE CENTERLINE MONUMENTATION"
"DO NOT DISTURB" PS#7719"
3. BOUNDARY SHALL BE TIED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM AS SHOWN.
4. BASIS OF BEARING SHALL BE NEW MEXICO STATE PLANE GRID BEARINGS.
5. ALL DISTANCES SHALL BE GROUND DISTANCES.
6. MANHOLES WILL BE OFFSET AT ALL POINTS OF CURVATURE, POINTS OF TANGENCY, STREET INTERSECTIONS, AND ALL OTHER ANGLE POINTS TO ALLOW USE OF CENTERLINE MONUMENTATION.
7. ALL PROPOSED LOTS CONTAINED WITHIN THIS SUBDIVISION ARE A MINIMUM OF 40 FEET WIDE AND A MINIMUM OF 4000 SF IN SIZE.

OWNERS

ALBUQUERQUE RIO BRAVO PARTNERS LLC
6330 RIVERSIDE PLAZA LANE N.W.
STE 220
ALBUQUERQUE, N.M 87102
(505) 898-5051

ENGINEERS

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

SITE BENCHMARK

ACS MONUMENT "3-P10" ELEVATION=4935.735 (SLD 1929)

SURVEYOR

ALDRICH LAND SURVEY
P.O. BOX 30701
ALBUQUERQUE, N.M. 87190-0701
(505) 884-1990

APPROVED

City Surveyor, City of Albuquerque, N.M. — Date 5/6/10

Albuquerque Rio Bravo Partners LLC
William Allen, Authorized Agent — Date 5/5/10

RECEIVED
MAY 07 2010
HYDROLOGY SECTION

U:\JOBS\A10004 - Ceja Vista, Unit 3 Rev\PLATS\PRELIMINARY PLAT\Submit1.dwg, 5/5/2010 2:52:43 PM,

NOTES:

1. The following Tracts have been created for the following purposes:

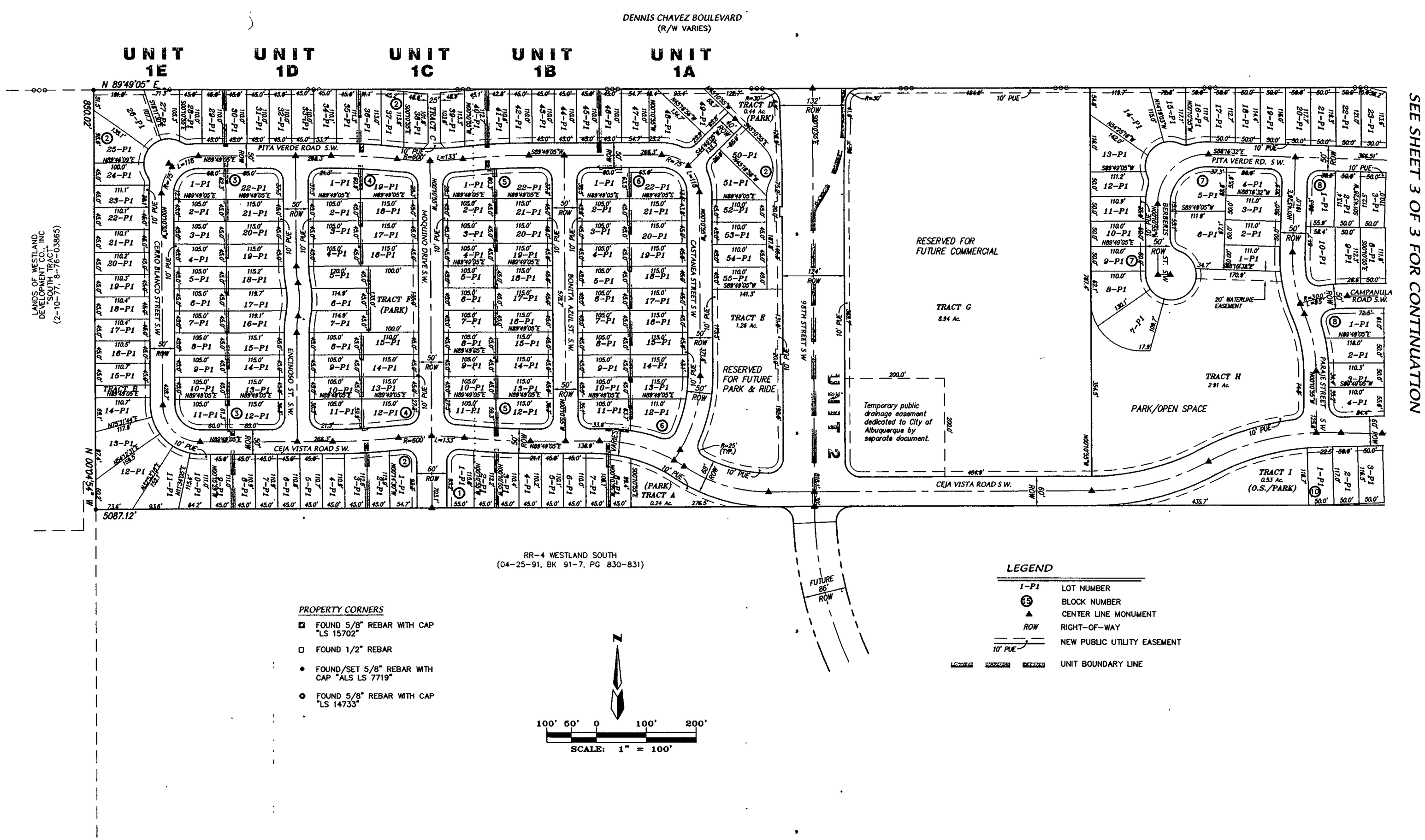
   Tract A– Open Space/Park
   Tract B– Pedestrian Access Esmt., Waterline & Drainage Esmt.
   Tract C– Pedestrian Access Esmt.
   Tract D– Open Space, Waterline & Sanitary Sewer Esmt.
   Tract E– Future C.O.A. "Park and Ride"
   Tract F– Open Space/Park
   Tract G– Future commercial development
   Tract H– Open Space/Park
   Tract I– Open Space/Park
   Tract J– Pedestrian Access Esmt., Waterline esmt.
   Tract K– Pedestrian Access Esmt.
   Tract L– Open Space/Park
   Tract M– Temporary Public Drainage Esmt., future residential lots
   Tract N– Open Space/Park
   Tract O– Open Space/Park
   Tract P– Future incorporation to south development
   Tract Q– Open Space/Park
   Tract R– Pedestrian Access Esmt., Waterline & Sanitary Sewer Esmt.
   Tract S– Public Drainage Esmt.

2. All waterline and sanitary sewer easements are granted to A.B.C.W.U.A.
3. All drainage easements and pedestrian access easements are granted to the City of Albuquerque
4. Tracts A. B. C. D. F. H. I. J. K. L. N. O. Q. R are owned by and to be maintained by the Ceja Vista Homewwners Association.
5. Tracts E, G, M and P are to be owned and maintained by the subdivider until such a time as the property has been conveyed or developed for the future intended purpose.
6. Tract S is to be owned and maintained by the City of Albuquerque for a permanent detention pond.

AMENDED PRELIMINARY PLAT FOR

CEJA VISTA SUBDIVISION
UNITS 1A, 1B, 1C, 1D, 1E, 2 AND 3

WITHIN THE
TOWN OF ATRISCO GRANT
PROJECTED SECTION 9
TOWNSHIP 9 NORTH, RANGE 2 EAST, NMPM
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
April, 2010



PROPERTY CORNERS

- FOUND 5/8" REBAR WITH CAP "LS 15702"
- FOUND 1/2" REBAR
- FOUND/SET 5/8" REBAR WITH CAP "ALS LS 7719"
- FOUND 5/8" REBAR WITH CAP "LS 14733"

N

100' 50' 0 100' 200'

SCALE: 1" = 100'

LEGEND

1-P1	LOT NUMBER
15	BLOCK NUMBER
▲	CENTER LINE MONUMENT
ROW	RIGHT-OF-WAY
10' PUE	NEW PUBLIC UTILITY EASEMENT
	UNIT BOUNDARY LINE

NOTES:

1. The following Tracts have been created for the following purposes:

   Tract A– Open Space/Park
   Tract B– Pedestrian Access Esmt., Waterline & Drainage Esmt.
   Tract C– Pedestrian Access Esmt.
   Tract D– Open Space, Waterline & Sanitary Sewer Esmt.
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   Tract F– Open Space/Park
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   Tract I– Open Space/Park
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   Tract K– Pedestrian Access Esmt.
   Tract L– Open Space/Park
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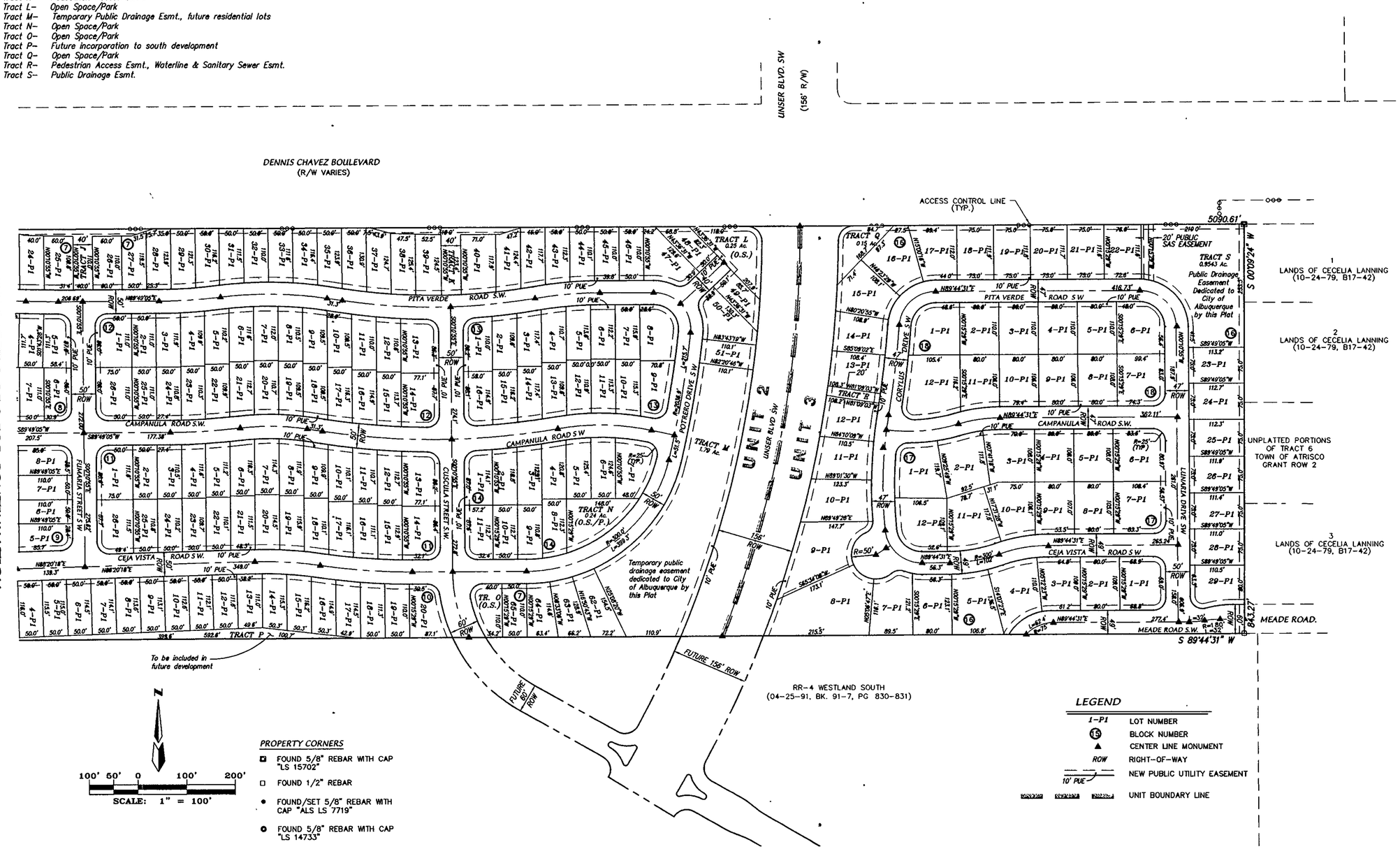
   Tract N– Open Space/Park
   Tract O– Open Space/Park
   Tract P– Future incorporation to south development
   Tract Q– Open Space/Park
   Tract R– Pedestrian Access Esmt., Waterline & Sanitary Sewer Esmt.
   Tract S– Public Drainage Esmt.

2. All waterline and sanitary sewer easements are granted to A.B.C.W.U.A.
3. All drainage easements and pedestrian access easements are granted to the City of Albuquerque
4. Tracts A. B. C. D. F. H. I. J. K. L. N. O. Q. R are owned by and to be maintained by the Ceja Vista homeowners Association.
5. Tracts E, G, M and P are to be owned and maintained by the subdivider until such a time as the property has been conveyed or developed for the future intended purpose.
6. Tract S is to be owned and maintained by the City of Albuquerque for a permanent detention pond.

AMENDED PRELIMINARY PLAT FOR

CEJA VISTA SUBDIVISION
UNITS 1A, 1B, 1C, 1D, 1E, 2 AND 3

WITHIN THE
TOWN OF ATRISCO GRANT
PROJECTED SECTION 9
TOWNSHIP 9 NORTH, RANGE 2 EAST, NMPM
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
April, 2007



N

100' 50' 0 100' 200'
SCALE: 1" = 100'

PROPERTY CORNERS

- FOUND 5/8" REBAR WITH CAP "LS 15702"
- FOUND 1/2" REBAR
- FOUND/SET 5/8" REBAR WITH CAP "ALS LS 7719"
- FOUND 5/8" REBAR WITH CAP "LS 14733"

LEGEND

1-P1	LOT NUMBER
15	BLOCK NUMBER
▲	CENTER LINE MONUMENT
ROW	RIGHT-OF-WAY
10' PUE	NEW PUBLIC UTILITY EASEMENT
	UNIT BOUNDARY LINE

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: **Ceja Vista Unit 1,2,3** ZONE MAP/DRG. FILE # **P-09-** D002D
DRB#: **1004428** EPC#: WORK ORDER#: **797381**

LEGAL DESCRIPTION: Tracts RR-3-A, RR-3-B, RR-3-C, RR-3-D, RR-3-E Westland South
CITY ADDRESS:

ENGINEERING FIRM: **MARK GOODWIN & ASSOCIATES, PA** CONTACT: **DIANE HOELZER,PE**
ADDRESS: PO BOX 90606 PHONE: 828-2200
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87199

OWNER: **ALBUQUERQUE RIO BRAVO PARTNERS, LLC** CONTACT: BILL ALLEN
ADDRESS: 6330 RIVERSIDE PLAZA LANE NW # 220 PHONE: 440-7262
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87120

ARCHITECT: N/A CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

SURVEYOR: **ALDRICH LAND SURVEYING** CONTACT: TIM ALDRICH
ADDRESS: PO BOX 30701 PHONE: 328-3988
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87190

CONTRACTOR: N/A CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

TYPE OF SUBMITTAL:
_____ DRAINAGE REPORT
_____ DRAINAGE PLAN 1st SUBMITTAL
_____ DRAINAGE PLAN RESUBMITTAL
_____ CONCEPTUAL G & D PLAN
_____ GRADING PLAN
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERT (HYDROLOGY)
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT
_____ ENGINEER/ARCHITECT CERT (TCL)
_____ ENGINEER/ARCHITECT (DRB SITE PLAN)
X_____ OTHER (REVISED G&D PLAN, SUPPL INFO

CHECK TYPE OF APPROVAL SOUGHT:
_____ SIA/FINANCIAL GUARANTEE RELEASE
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D APPROVAL
_____ S. DEV. 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
X_____ OTHER (AMENDED PRELIMINARY PLAT APPROVAL)

RECEIVED
APR 21 2010
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:
_____ YES
_____ NO
_____ COPY PROVIDED

SUBMITTED BY: DIANE HOELZER, PE DATE: APRIL 21, 2010

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope to the proposed development define 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 subdivision containing more than ten (10) lots or constituting five (5) acres or more.

Current DRC
Project Number:

FIGURE 12

Date Submitted 5/07/2010
Date Site Plan Approved
Date Preliminary Plat Approved:
Date Preliminary Plat Expires
DRB Project No.: 1004428
DRB Application No

INFRASTRUCTURE LIST

EXHIBIT "A"

TO SUBDIVISION IMPROVEMENTS AGREEMENT

DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LIST

Ceja Vista Units 1A, 1B, 1C, 1D, 1E, 2, 3

PROPOSED NAME OF PLAT AND/OR SITE DEVELOPMENT PLAN

Town of Atrisco Grant Township 9 North, Range 2 East, NMPM, Tracts RR-3-A, RR-3-B, RR-3-C, RR-3-D & RR-3-E, Westland South

EXISTING LEGAL DESCRIPTION PRIOR TO PLATTING ACTION

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 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.

Financially Guaranteed	Constructed Under	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
		ALL INFRASTRUCTURE FOR UNITS 1A THROUGH 1E SHALL BE CONSTRUCTED IN ALPHA NUMERIC ORDER AS SHOWN BELOW. WORK ORDERS MAY BE RELEASED SIMULTANEOUSLY BUT NOT OUT OF SEQUENCE.							
			UNIT 1A						
		48' FF	Res Pvmt	Ceja Vista	98th St.	Castanea St	/	/	/
		4'	Median						
		22'	Drive Lane						
			C & G						
		6'	Sidewalk (Both Sides)						
		28'-48' FF	Res. Pvmt.	Ceja Vista Rd.	Castanea St	Lot 7, Blk 1	/	/	/
			C & G						
		4'	Sidewalk (N Side)						
		4' - 6'	Sidewalk (S. Side) Tract A						
		4' (*)	Sidewalk (S. Side)						
		32' FF	Res. Pvmt.	Castanea St	Ceja Vista Rd	Pita Verda Rd.	/	/	/
			C & G						
		4' (*)	Sidewalk (Both Sides)						
		4'	Sidewalk (E. Side)	Tract E					
		26' FF	Res Pvmt.	Pita Verde Stub	Castanea St.	End Lot 49 & 50	/	/	/
			C & G						
		4' (*)	Sidewalk (W Side)						
		28' FF	Res. Pvmt.	Pita Verda Rd	Lot 45, Blk 2	Castanea St	/	/	/
			C & G						
		4'	Sidewalk (S. Side)						
		4' (*)	Sidewalk (N. Side)						
		114' FF	Art Pvmt.	98th St	D. Chavez R/W Line	151' S of R/W Line	/	/	/
			C & G						
		6'	Sidewalk (W. Side)						
		42' - 114'	Art Pvmt	98th St	151' S. of R/W Line	309' S of R/W Line	/	/	/
			C & G	(Transition)					
		6'	Sidewalk (W Side)						

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
		42' FF	Art Pvmt.	W Half 98th St	Ceja Vista Rd	558' North	/	/	/
			C & G						
		6'	Sidewalk (W. Side)						
		35' radius	Temp Turnaround (w/Temp Easement)	Pita Verde Rd.	Lot 46, Blk 2		/	/	/
			UNIT 1A COUNTY IMPROVEMENTS						
		114' FF	Art Pvmt	113' of 98th St	Dennis Chavez Blvd.	South D. Chavez R/W Line	/	/	/
			C & G						
		6'	Sidewalk (W. Side)						
		12'	Asphalt Trail	Dennis Chavez	West P.L	East P L	/	/	/
			Water						
		12"	Waterline	98th St	Exist 12"WL (@ Dennis Chavez)	South PL (Ceja Vista Rd)	/	/	/
		8"	Waterline	Tract D	98th St.	Pita Verde Stub	/	/	/
		8"	Waterline	Pita Verde Stub	Tract D	Castanea St	/	/	/
		8"	Waterline	Pita Verde Rd.	Castanea St	Lot 45, Blk 2	/	/	/
		8"	Waterline	Castanea St.	Pita Verde Rd.	Ceja Vista Rd.	/	/	/
		12"	Waterline	Ceja Vista Rd	98th St.	Castanea St	/	/	/
		10"	Waterline	Ceja Vista Rd.	Castanea St.	Lot 7, Blk1	/	/	/
			Sanitary Sewer						
		8"	SAS	98th St	Exist 15"SAS (@ Dennis Chavez)	Tract D	/	/	/
		8"	SAS	Tract D	98th St.	Pita Verde Stub	/	/	/
		8"	SAS	Pita Verde Stub	Tract D	Castanea St.	/	/	/
		8"	SAS	Pita Verde Rd	Castanea St.	Lot 45, Blk 2	/	/	/
		8"	SAS	Castanea St.	Pita Verde Rd.	Ceja Vista Rd.	/	/	/
		8"	SAS	Ceja Vista Rd	Castanea St	Lot 7, Blk 1	/	/	/
			Storm Drain						
		18"- 42"	Storm Drain	98th St.	Near Ceja Vista Rd	S Property Line	/	/	/
		18"-42"	Storm Drain	Ceja Vista Rd.	98th St.	Lot 7, Blk 1	/	/	/
		18"-24"	Storm Drain	Castanea St.	Ceja Vista Rd.	Lot 12, Blk 6	/	/	/
		36"	Storm Drain (Temp)	98th St.	Tract G temp pond		/	/	/
		6 6 AF	Temporary Pond	Tract G			/	/	/
		6 6 AF	Agreement & Covenant	Tract G Pond			/	/	/
		0 605 AF	Temporary Pond	Unit 3C			/	/	/
		0 605 AF	Agreement & Covenant	Unit 3C Pond			/	/	/

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
			UNIT 1B						
		28' FF	Res. Pvmt	Ceja Vista Rd	Lot 8, Blk 1	Lot 2, Blk 1	/	/	/
			C & G						
		4'	Sidewalk (N. Side)						
		4' (*)	Sidewalk (S. Side)						
		28' FF	Res. Pvmt	Bonita Azul St.	Ceja Vista Rd.	Pita Verde Rd	/	/	/
			C & G						
		4' (*)	Sidewalk (Both Sides)						
		28' FF	Res. Pvmt.	Pita Verde Rd	Lot 46, Blk 2	Lot 40, Blk 2	/	/	/
			C & G						
		4' (*)	Sidewalk (N. Side)						
		4'	Sidewalk (S Side)						
			Water						
		10"	Waterline	Ceja Vista Rd.	Lot 8, Blk 1	Lot 2, Blk 1	/	/	/
		6"	Waterline	Bonita Azul St.	Ceja Vista Rd.	Pita Verde Rd.	/	/	/
		8"	Waterline	Pita Verde Rd.	Lot 46, Blk 2	Lot 40, Blk 2	/	/	/
			Sanitar Sewer						
		8"	SAS	Ceja Vista Rd	Lot 8, Blk 1	Lot 2, Blk 1	/	/	/
		8"	SAS	Bonita Azul St	Ceja Vista Rd.	Pita Verde Rd	/	/	/
		8"	SAS	Pita Verde Rd	Lot 46, Blk 2	Lot 40, Blk 2	/	/	/
			Storm Drain						
		30",36"	Storm Drain	Ceja Vista Rd	Lot 8, Blk 1	Lot 2, Blk 1	/	/	/
			UNIT 1C						
		28' FF	Res. Pvmt	Ceja Vista Rd	Lot 3, Blk 1	Lot 3, Blk 2	/	/	/
			C & G						
		4'	Sidewalk (N. Side)						
		4' (*)	Sidewalk (S Side)						
		28' FF	Res Pvmt.	Moquino Dr	Ceja Vista Rd	Pita Verde Rd	/	/	/
			C & G						
		4' (*)	Sidewalk (Both Sides)						
		4'	Sidewalk (W Side)	Tract F					
		28' FF	Res. Pvmt	Pita Verde Rd	Lot 41, Blk 2	Lot 35, Blk 2	/	/	/
			C & G						
		4' (*)	Sidewalk (N Side)						
		4'	Sidewalk (S Side)						
		6'	Asphalt Trail	Tract C	North P L.	South P L	/	/	/
			Water						
		12"	Waterline	Dennis Chavez	Exist 18" WL(N Side)	Southside D Chavez	/	/	/
		12"	Waterline	Southside D. Chavez	Bore Under D Chavez	Exist 12"WL (@ NW Unit 1E)	/	/	/

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
			PRV Station	West of Tract B			/	/	/
		12"	Waterline	Tract B	PRV Station	Cerro Blanco St.	/	/	/
		10"	Waterline	Cerro Blanco St.	Tract B	Ceja Vista Rd.	/	/	/
		10"	Waterline	Ceja Vista Rd	Cerro Blanco St	Exist 10"WL(L 3, B1)	/	/	/
		6"	Waterline	Moquino Dr.	Ceja Vista Rd	Pita Verde Rd	/	/	/
		8"	Waterline	Pita Verde Rd	Lot 41, Blk 2	Lot 35, Blk 2	/	/	/
			Sanitary Sewer						
		8"	SAS	Moquino Dr	Ceja Vista Rd	Pita Verde Rd	/	/	/
		8"	SAS	Pita Verde Rd.	Lot 41, Blk 2	Lot 35, Blk 2	/	/	/
		8"	SAS	Ceja Vista Rd.	Lot 3, Blk 1	Lot 3, Blk 2	/	/	/
			Storm Drain						
		18",24",30"	Storm Drain	Ceja Vista Rd.	Lot 3, Blk 1	Lot 3, Blk 2	/	/	/
			UNIT 1D						
		28' FF	Res. Pvmt	Ceja Vista Rd	Lot 2, Blk 2	Lot 9, Blk 2	/	/	/
			C & G						
		4'	Sidewalk (N. Side)						
		4' (*)	Sidewalk (S. Side)						
		28' FF	Res. Pvmt.	Encinosa St	Ceja Vista Rd.	Pita Verde Rd.	/	/	/
			C & G						
		4' (*)	Sidewalk (Both Sides)						
		28' FF	Res. Pvmt	Pita Verde Rd	Lot 36, Blk 2	Lot 29, Blk 2	/	/	/
			C & G						
		4' (*)	Sidewalk (N Side)						
		4'	Sidewalk (S. Side)						
			Water						
		6"	Waterline	Encinoso St	Ceja Vista Rd.	Piat Verde Rd.	/	/	/
		8"	Waterline	Pita Verde Rd	Lot 36, Blk 2	Lot 29, Blk 2	/	/	/
			Sanitary Sewer						
		8"	SAS	Encinoso St.	Ceja Vista Rd.	Pita Verde Rd.	/	/	/
		8"	SAS	Pita Verde Rd	Lot 36, Blk 2	Lot 29, Blk 2	/	/	/
		8"	SAS	Ceja Vista Rd.	Lot 2, Blk 2	Lot 9, Blk 2	/	/	/
			Storm Drain						
		18",24"	Storm Drain	Ceja Vista Rd.	Lot 2, Blk 2	Lot 9, Blk 2	/	/	/

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
			UNIT 1E						
		28' FF	Res Pvmt	Ceja Vista Rd	Lot 8, Blk 2	Cerro Blanco St	/	/	/
			C & G						
		4'	Sidewalk (N Side)						
		4' (*)	Sidewalk (S. Side)						
		28' FF	Res. Pvmt.	Cerro Blanco St	Ceja Vista Rd	Pita Verde Rd	/	/	/
			C & G						
		4' (*)	Sidewalk (Both Sides)						
		28' FF	Res. Pvmt	Pita Verde Rd	Lot 30, Blk 2	Cerro Blanco St.	/	/	/
			C & G						
		4' (*)	Sidewalk (N Side)						
		4'	Sidewalk (S. Side)						
		6'	Asphalt Trail	Tract B	West P.L.	East P L	/	/	/
			Water						
		8"	Waterline	Cerro Blanco St.	Tract B	Pita Verde Rd	/	/	/
		8"	Waterline	Pita Verde Rd	Cerro Blanco St.	Lot 30, Blk 2	/	/	/
			Sanitary Sewer						
		8"	SAS	Pita Verde Rd	Cerro Blanco St.	Lot 30, Blk 2	/	/	/
		8"	SAS	Cerro Blanco St.	Pita Verde Rd	Lot 10, Blk 3	/	/	/
		8"	SAS	Cerro Blanco St	Lot 14, Blk 2	Ceja Vista Rd.	/	/	/
		8"	SAS	Ceja Vista Rd.	Cerro Blanco St.	Lot 8, Blk 2	/	/	/
			Storm Drain						
		24"	Storm Drain	Ceja Vista Rd.	Cerro Blanco St.	Lot 8, Blk 2	/	/	/
		24"	Storm Drain	Cerro Blanco St.	Tract B	Ceja Vista Rd.	/	/	/
		24"	Storm Drain	Tract B	W. Property Line	Cerro Blanco St.	/	/	/
			UNIT 2						
		28' FF	Res. Pvmt	Pita Verde Rd	Berberis St	Potrero Dr	/	/	/
			C & G (Both Sides)						
		4' (*)	Sidewalk (Both Sides)						
		4'	Sidewalk (North side)	Tract J					
		4'	Sidewalk (Norht side)	Tract K					
		26' FF	Res. Pvmt	Pita Verde Stub	Potrero Dr.	Tract L	/	/	/
			C & G (Both Sides)						
		4' (*)	Sidewalk (North Side Only)						
		28' FF	Res Pvmt	Campanula Rd	Paraje St	Potrero Dr.	/	/	/
			C & G (Both Sides)						
		4' (*)	Sidewalk (Both Sides)						

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
		40' FF	Res Pvmt	Ceja Vista Rd.	98th St	Fumaria St.	/	/	/
			C & G (Both Sides)						
		6'	Sidewalk (Both Sides)	Ceja Vista Rd	98th St.	Paraje St			
		6'	Sidewalk (N. Side)	Ceja Vista Rd.	Paraje St	Fumaria St			
		6'(*)	Sidewalk (S Side)	Ceja Vista Rd.	Paraje St	Fumaria St			
		28' FF	Res Pvmt	Ceja Vista Rd.	Fumaria St	Potrero Dr.	/	/	/
			C & G (Both Sides)						
		4' (*)	Sidewalk (Both Sides)						
		32' FF	Res. Pvmt	Paraje St	Ceja Vista Rd	Campanula Rd.	/	/	/
			C & G (Both Sides)						
		4' (*)	Sidewalk (East Side)						
		28' FF	Res Pvmt	Paraje St.	Campanula Rd	Pita Verde Rd.	/	/	/
			C & G (Both Sides)						
		4'	Sidewalk (East side)						
		4' (*)	Sidewalk (West Sides)						
		28' FF	Res Pvmt	Fumaria St	Ceja Vista Rd.	Pita Verde Rd	/	/	/
			C & G (Both Sides)						
		4'(*)	Sidewalk (West side)		Ceja Vitsa Rd	Campanula Rd.			
		4	Sidewalk (East side)		Ceja Vista Rd	Campanula Rd			
		4'	Sidewalk (Both Sides)		Campanula Rd	Pita Verde Rd.			
		28' FF	Res. Pvmt	Cuscula St.	Ceja Vista Rd	Pita Verde Rd	/	/	/
			C & G (Both Sides)						
		4'	Sidewalk (Both Sides)						
		38' FF	Res. Pvmt	Cuscula St	S Property Line	Ceja Vista Rd	/	/	/
			C & G (Both sides)						
		6'	Sidewalk (Both Sides)						
		28' FF	Res. Pvmt	Potrero Dr.	Ceja Vista Rd	Pita Verde Rd.	/	/	/
			C & G (Both sides)						
		4'(*)	Sidewalk (East Side)						
		4'	Sidewalk (West side)						
		28' FF	Res. Pvmt	Berberis St.	40' Cul-de-Sac @	Pita Verde Rd	/	/	/
			C & G (Both Sides)		Tract H				
		4'(*)	Sidewalk (Both sides)						
		4'	Sidewalk	Tract H					
		30' FF	Art. Pvmt	E Half of 98th St	South PL	Dennis Chavez Blvd	/	/	/
			C & G (East Side), Median Curb						
		6'	Sidewalk (E Side)						
		30' FF	Art. Pvmt	W. Half of Unser Blvd.	South PL	Dennis Chavez Blvd	/	/	/
			C & G (West Side Only), Median Curb						
		6'	Sidewalk (West Side Only)						
		6'	Asphalt Trail	Tract L	Pita Verde Rd	Unser Blvd.	/	/	/
		6'	Asphalt Trail	Tract K	Pita Verde Rd	Dennis Chavez	/	/	/

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
		6'	Asphalt Trail	Tract J	Pita Verde Rd.	Dennis Chavez	/	/	/
		6'	Asphalt Trail	Tract H	Paraje St	Berberis St. Cul-de-Sac	/	/	/
		6'	Asphalt Trail	Tract H	Berberis St.	Ceja Vista Rd	/	/	/
			Water						
		12"	Waterline (2WR)	Unser Blvd	S. Dennis Chavez	N. Dennis Chavez	/	/	/
		12"	Waterline (2WR)	S. Dennis Chavez	Tract J	Unser Blvd.	/	/	/
		12"	Waterline (2WR)	Tract J	S Dennis Chavez	Pita Verde Rd	/	/	/
		12"	Waterline (2WR)	Pita Verde Rd	Paraje St.	Tract J	/	/	/
		6"	Waterline (2WR)	Pita Verde Rd	Berberis St.	Paraje St.	/	/	/
		6"	Waterline (2WR)	Berberis St	Tract H	Pita Verde Rd.	/	/	/
		6"	Wateline (2WR)	Tract H	Berberis St	Paraje St	/	/	/
		12"	Waterline (2WR)	Ceja Vista Rd	98th Street (tie in)	Paraje St.	/	/	/
		12"	Waterline (2WR)	Paraje St	Ceja Vista Rd.	Pita Verde Rd	/	/	/
		4"	Waterline (1W)	Pita Verde Rd.	Lot 17, Blk 7	Paraje St.	/	/	/
		8"	Waterline (1W)	Pita Verde./Stub/Tract L	Paraje St	Unser Blvd (16"WL)	/	/	/
		6"	Waterline (1W)	Campanula Rd.	Paraje St	Potrero Dr	/	/	/
		8"	Waterline (1W)	Ceja Vista Rd	Paraje St.	Potrero Dr.	/	/	/
		8"	Waterline (1W)	Paraje St.	Ceja Vista Rd	Pita Verde Rd.	/	/	/
		6"	Waterline (1W)	Fumaria St	Ceja Vista Rd.	Campanula Rd	/	/	/
		8"	Waterlne (1W)	Cuscula St.	Ceja Vista Rd	South Property Line	/	/	/
		8"	Waterline (1W)	Potrero Dr.	Ceja Vista Rd.	Pita Verde Rd.	/	/	/
			Sanitary Sewer						
		8"	SAS	Pita Verde/Stub/Tract L	Berberis St.	Unser Blvd (Ex.15")	/	/	/
		8"	SAS	Campanula Rd.	Paraje St.	Potrero Dr	/	/	/
		8"	SAS	Ceja Vista Dr	Tract G Commercial	Potrero Dr.	/	/	/
		8"	SAS	Potrero Dr.	Ceja Vista Rd	Pita Verde Rd	/	/	/
		8"	SAS	Paraje St	Ceja Vista Rd	Pita Verde Rd.	/	/	/
		8"	SAS	Fumaria	Ceja Vista Rd	Campanula Rd.	/	/	/
			Storm Drain						
		30" - 48"	Storm Drain	Ceja Vista Rd.	Tract G	Potrero Dr.	/	/	/
		24" - 30"	Storm Drain	Cuscula St.	Ceja Vista Rd	Pita Verde Rd	/	/	/
		18" - 36"	Storm Drain	Potrero Dr.	Ceja Vista Rd.	Pita Verde Rd.	/	/	/
		18" - 24"	Storm Drain	Pita Verde Rd	Lot 7, Blk 12	Cuscula St.	/	/	/
		48"	Storm Drain	Tract M	Potrero St.		/	/	/
		54"	Storm Drain	Tract M	Unser Blvd.		/	/	/
		54"	Storm Drain	Unser Blvd	Tract M	S Property Line	/	/	/
		24"	Storm Drain	Unser Blvd.	In D Chavez R/W		/	/	/
		9.0 Ac-Ft	Temp Retention Pond w/ A & C	Tract M			/	/	/

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
			UNIT 2 COUNTY IMPROVEMENTS						
			1/4 Signal	Dennis Chavez/Unser Blvd			/	/	/
			1/4 Signal	Dennis Chavez/98th Street			/	/	/
		12'	Asphalt Trail	Dennis Chavez	98th St	Unser Blvd.	/	/	/
		6'	Surface Pvmt (Bike Lane)	Dennis Chavez	98th St. W PL	Unser Blvd. E. PL	/	/	/
		12'	Art.. Pvmt (E Bound Rt Turn)	Dennis Chavez	98th Street	150 ft. West	/	/	/
		12'	Striping (W Bound Lt Turn)	Dennis Chavez	98th Street	150 ft East	/	/	/
		12'	Art. Pvmt (S. Bound Lt Turn)	98th Street	Dennis Chavez	150 ft. North	/	/	/
			C & G						
			UNIT 3						
		26' FF	Res. Pvmt	Pita Verde Rd	Corylus Dr.	Lunaria Dr.	/	/	/
			C & G (Both Sides)						
		4' (*)	4' Sidewalk (Both Sides)						
		26' FF	Res Pvmt	Campanula Rd	Corylus Dr.	Lunaria Dr	/	/	/
			C & G (Both Sides)						
		4' (*)	Sidewalk (Both Sides)						
		26' FF	Res Pvmt	Ceja Vista Rd	Corylus Dr.	Lunaria Dr.	/	/	/
			C & G (Both Sides)						
		4' (*)	Sidewalk (Both Sides)						
		26' FF	Res. Pvmt	Corylus Dr.	Ceja Vista Rd.	Pita Verde Rd	/	/	/
			C & G (Both Sides)						
		4'	Sidewalk (East side)						
		4' (*)	Sidewalk (West Side)						
		26' FF	Res Pvmt	Lunaria Dr	Meade Rd	Pita Verde Rd	/	/	/
			C & G (Both Sides)						
		4'	Sidewalk (West side)						
		4' (*)	Sidewalk (East Side)						
		28' FF	Res. Pvmt	Meade Rd.	East P.L.	South P.L	/	/	/
			C & G (Both Sides)						
		6'	Sidewalk (North Side)						
		30' FF	Art. Pvmt	E. Half of Unser Blvd	Dennis Chavez	South PL	/	/	/
			C & G (East Side Only), Median Curb						
		10'	Asphalt Trail						
		6'	Asphalt Trail	Tract R	Unser Blvd.	Corylus Dr	/	/	/
		6'	Asphalt Trail	Tract S	Pita Verde Rd.	Dennis Chavez	/	/	/
			Water						
		16"	Waterline	Unser Blvd	South PL	Exist. 12" WL (1W) Dennis Chavez Blvd	/	/	/
		8"	Reuse Water Line	Unser Blvd	South PL	Dennis Chavez Blvd	/	/	/
		8"	Waterline	Pita Verde Rd	Corylus Dr.	Lunaria Dr.	/	/	/
		8"	Waterline	Ceja Vista Rd	Corylus Dr	Lunaria Dr	/	/	/

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
		10"	Waterline	Tract R	Unser Blvd	Corylus Dr	/	/	/
		10"	Waterline	Meade Rd	S. Property Line	East Property Line	/	/	/
		8"	Waterline	Corylus Dr.	Ceja Vista Rd	Pita Verde Rd	/	/	/
		8"	Waterline	Lunaria Dr.	Meade Rd.	Pita Verde Rd	/	/	/
		6"	Waterline	Campanula Rd	Corylus Dr	Lunaria Dr.	/	/	/
			Sanitary Sewer						
		10"	SAS	Tract S	Pita Verde Rd	Dennis Chavez R/W (Exist. 15" SAS)	/	/	/
		8"	SAS	Pita Verde Rd	Corylus Dr	Lunaria Dr	/	/	/
		8"	SAS	Campanula Rd.	Corylus Dr	Lunaria Dr	/	/	/
		8"	SAS	Ceja Vista Rd.	Corylus Dr.	Lunaria Dr.	/	/	/
		8"	SAS	Corylus Dr	Ceja Vista Rd.	Pita Verde Rd	/	/	/
		8"	SAS	Lunaria Dr	Meade Rd.	Pita Verde Rd.	/	/	/
		8"	SAS	Unser Blvd	Tract R	South P Line	/	/	/
		8"	SAS	Tract R	Unser Blvd	Corylus Dr.	/	/	/
		8"	SAS	Meade Rd.	Lunaria Dr	S. Property Line	/	/	/
			Storm Drain						
		2 7 Ac-Ft Public Pond w/Low flow Channel (Work Order)		Tract S			/	/	/
		24" - 48"	Storm Drain	Lunaria Dr.	Meade Rd	Pita Verde Rd.	/	/	/
		18" - 48"	Storm Drain	Tract S	Tract S	Dennis Chavez	/	/	/
		24" - 30"	Storm Drain	Dennis Chavez	Tract S Pond	Hubbel Channel	/	/	/
		24"	Storm Drain	Meade Rd	S. Property Line	Lunaria Dr.	/	/	/
			UNIT 3 COUNTY IMPROVEMENTS						
			1/4 Signal	Dennis Chavez/Unser Blvd			/	/	/
		12'	Art. Pvmt (W Bound Lt Turn)	Dennis Chavez	Condeshire	150 ft. East	/	/	/
		12'	Art. Pvmt (E. Bound Lt Turn)	Dennis Chavez	Condeshire	75 ft. West	/	/	/
		32' EE	Res. Pvmt (28' Drive Lane)	Meade Rd.	East Property Line	Meade Ave	/	/	/
		28' EE	Res Pvmt	Meade Ave.	Meade Rd	Betty Court	/	/	/
		12"	Asphalt Trail	S Dennis Chavez R/W	Unser Blvd.	Unit 3 East P L.	/	/	/
		6'	Bike Lane	S Dennis Chavez R/W	Unser Blvd	Unit 3 East P L	/	/	/
		12'	Striping (W Bound Lt Turn)	Dennis Chavez	Unser Blvd	150 ft East	/	/	/
		12'	Art. Pvmt (E. Bound Rt Turn)	Dennis Chavez	Unser Blvd	150 ft West	/	/	/
		6'	Bike Lane	Dennis Chavez	Unser Blvd	150 ft. West	/	/	/

The items listed below are on the CCIP and approved for Impact Fee credits. Signatures from the Impact Fee Administrator and the City User Department is required prior to DRB approval of this listing. The Items listed below are subject to the standard SIA requirements.

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
							/	/	/
							/	/	/

Approval of Creditable Items:

Impact Fee Admistrator Signature Date

Approval of Creditable Items:

City User Dept. Signature Date

NOTES

If the site is located in a floodplain, then the financial guarantee will not be released until the LOMR is approved by FEMA.

Street lights per City rquirements.

(*) Sidewalks are deferred in these areas. All others are built with Unit construction plans

1 Landscaping Maintenance Agreement for landscaping in the public right-of-way

2 Walls & landscaping certification from registered engineer and/or registered landscape architect required prior to release of financial guarantees.

3 Development Agreement w/ ABCWUA including Don Reservoir as a condition of Final Plats

4 Engineers certification of the grading plan required for release of SIA for each Unit.

AGENT / OWNER

Diane Hoelzer, PE
NAME (print)

Mark Goodwin & Associates, PA
FIRM

Diane Hoelzer 5-7-10
SIGNATURE - date

DEVELOPMENT REVIEW BOARD MEMBER APPROVALS

DRB CHAIR - date

PARKS & GENERAL RECREATION - date

TRANSPORTATION DEVELOPMENT - date

AMAFCA - date

UTILITY DEVELOPMENT - date

_____ - date

CITY ENGINEER - date

_____ - date

DESIGN REVIEW COMMITTEE REVISIONS

REVISION	DATE	DRC CHAIR	USER DEPARTMENT	AGENT /OWNER

2005.180.4

BERNALILLO COUNTY

PWD SUBMITTAL

Use for all PWD applications EXCEPT Street Excavation

☒ NEW SUBMITTAL
☐ RESUBMITTAL
☐ FINAL SIGNOFF

TODAY'S DATE: 11/27/2007

CASE NO:

OWNER

OWNER: Albuquerque Public Schools — PHONE: 246-9020
MAILING ADDRESS: 915 Oak Street SE — CITY: Albuquerque — ZIP: 87106

AGENT

AGENT / CONTRACTOR: High Mesa Consulting Group — PHONE: 345-4250
MAILING ADDRESS: 6010-B MIDWAY PARK BLVD NE — CITY: Albuquerque — ZIP: 87109
STATE LICENSE NO — EXP DATE — VOLUME — CLASS
ARCHITECT/ENGINEER: J. Graeme Means — LICENSE NO: 13676 — PHONE: 345-4250

SITE INFORMATION

SITE ADDRESS / DIRECTIONS: SE CORNER OF DENNIS CHAVEZ BLVD SW AND 118th STREET SW. — ZONE ATLAS NO. P-8

LEGAL DESCRIPTION: Tracts B, C & D, TOMA ALLIANCE GROUP OF NM LLC & WESTLAND DEVELOPMENT CO. — LOT SIZE: 16.0, 21.4, 65.00 (B, C, D)

EXISTING BUILDING(S) AND USE: Undeveloped — PROPOSED BUILDING(S): High School (Tract D)

UPC #: 1-008-053-385-150-402-02 (TRACT B)
1-008-053-498-150-401-01 (TRACT C)
1-008-053-475-290-402-03 (TRACT D)

TYPE OF SUBMITTAL

- ☐ REPLAT
- ☐ MINOR SUBDIVISION
- ☐ MAJOR SUBDIVISION
- ☐ CONSTRUCTION DRAWINGS
- ☒ GRADING & DRAINAGE PLAN
- ☐ AS-CONSTRUCTED GRADING & DRAINAGE PLAN
- ☐ VARIANCE REQUEST
- ☐ LAND DIVISION
- ☐ TRAFFIC IMPACT ANALYSIS / TRAFFIC STUDY
- ☐ INFRASTRUCTURE LIST / DESIGN REVIEW
- ☐ SPECIAL USE PERMIT
- ☐ BARRICADING PERMIT
- ☐ BUILDING PERMIT
- ☐ INSPECTION
- ☐ OTHER (Specify).

The issuance of a permit or a review or approval of plan specifications, computations, and shop drawings, shall not be interpreted to be a permit for, or an approval of any variance or violation of any of the provisions of any COUNTY or STATE codes, ordinances, standards, or policies. Nor shall such issuance of a permit or approval of plans, specifications, computations, and shop drawings prevent any authorized COUNTY representative or COUNTY inspector from thereafter requiring the correction of errors in said plans, specifications, computations, or shop drawings or from stopping construction operations which are being carried on thereunder when in violation of any COUNTY or STATE codes, ordinances, standards, or policies.

☐ Owner ☒ Agent ☐ Contractor — Signature: J. Graeme Means — Date: 11/27/2007

COUNTY

BERNALILLO COUNTY USE ONLY

C/R's. — TOTAL FEE — Receipt No: — Received By:

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AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02c RUN DATE (MON/DAY/YR) =11/16/2007

INPUT FILE = H:\PROGRAMS\AHYMO_97\200518~1.4\COMPAR~1.TXT USER NO.= AHYMO-I-9702c0100021U-SH

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
START										TIME= .00
RAINFALL TYPE= 2										RAIN24= 2.660
COMPUTE NM HYD	A	-	1	.02650	43.85	1.300	.91999	1.500	2.585	PER IMP= 5.00
COMPUTE NM HYD	B	-	3	.04664	99.33	3.974	1.59741	1.500	3.327	PER IMP= 49.00
COMPUTE NM HYD	N	-	5	.01511	28.01	1.033	1.28148	1.500	2.896	PER IMP= 32.00
COMPUTE NM HYD	S1	-	6	.01433	24.31	.877	1.14754	1.500	2.650	PER IMP= 26.60
ROUTE RESERVOIR	N2ROUTE	6	7	.01433	3.86	.882	1.15339	2.000	.421	AC-FT= .451
COMPUTE NM HYD	S2	-	8	.01290	21.57	.754	1.09596	1.500	2.614	PER IMP= 23.00
ADD HYD	S12	7& 8	9	.02723	25.17	1.635	1.12618	1.500	1.445	
ROUTE RESERVOIR	S12ROUTE	9	10	.02723	.65	1.458	1.00382	3.850	.037	AC-FT= 1.312
COMPUTE NM HYD	S3	-	11	.05812	128.94	6.509	2.09987	1.550	3.467	PER IMP= 81.00
ADD HYD	OFFSITE	11&10	21	.08535	129.53	7.967	1.75022	1.550	2.371	
ROUTE	OFFROUTE	21	24	.08535	130.04	7.962	1.74914	1.550	2.381	
ADD HYD	AMAFCA	24& 3	12	.13199	218.66	11.935	1.69553	1.550	2.589	
ADD HYD	PERDIZ	12& 1	13	.15849	260.81	13.235	1.56585	1.500	2.571	
COMPUTE NM HYD	A	-	2	.05130	84.86	2.517	.92000	1.500	2.585	PER IMP= 5.00
COMPUTE NM HYD	B	-	4	.06410	136.50	5.461	1.59742	1.500	3.327	PER IMP= 49.00
ADD HYD	ORIGINAL	2& 4	22	.11540	221.36	7.978	1.29627	1.500	2.997	
FINISH										

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```
*2345678901234567890
*
*   APS SOUTHWEST HIGH SCHOOL MASTER DRAINAGE PLAN - REVISES BASINS A, B & B-4E
*   FROM WILSON & COMPANY MASTER PLAN DATED APRIL, 2000
*
*   JMA JOB NUMBER 2005.180.4
*
*
START                TIME = 0.0 HR  PUNCH CODE = 0  PRINT LINES = -1
*
*   RAINFALL DATA FROM DPM 22.2 - Zone 1
*
RAINFALL             TYPE = 2  RAIN QUARTER = 0.0
                     RAIN ONE = 1.87 IN  RAIN SIX = 2.20 IN
                     RAIN DAY = 2.66 IN  DT = 0.05
*
*   PRO-RATED ALLOWABLE DISCHARGE FOR W&C BASIN A (PLAT TRACT B)
*   THIS BASIN GOES DIRECTLY TO SOUTH TO CHANNEL PER MDP.  THE LAND TREATMENT
*   ARE UNCHANGED PER THE WILSON MDP WITH THE REDUCED AREA PER THE RE-PLAT.
*
COMPUTE NM HYD       ID = 1  HYD NO = A  AREA = 0.0265 SQ MI
                     PER A = 0 PER B = 40 PER C = 55  PER D = 5
                     TP = -0.13333 HRS  MASS RAIN = -1
PRINT HYD            ID = 1  CODE = 1
*
*   PRO-RATED DISCHARGE FROM W&C BASIN B ADJUSTED FOR REDUCED SIZE OF PLAT TRACT C
*   THIS TRACT C BASIN USES LAND TREATMENTS FROM W&C BASIN B AND IS ADJUSTED FOR THE
*   REPLATTED SIZE OF TRACT C
*
COMPUTE NM HYD       ID = 3 HYD NO = B  AREA = 0.046641 SQ MI
                     PER A = 0  PER B = 28  PER C = 23  PER D = 49
                     TP = -0.13333 HRS  MASS RAIN = -1
PRINT HYD            ID = 3 CODE = 1
*
*PRINT HYD            ID = 3 CODE = 1
*
*   START FULLY DEVELOPED CONDITIONS FOR APS SOUTHWEST HIGH SCHOOL SITE
*
*   DISCHARGE FROM LOWER SECTION OF ATHLETIC FIELD - BASIN WILL FREELY DISCHARGE TO CEJA VISTA
*
COMPUTE NM HYD       ID = 5 HYD NO = N AREA = 0.01511457 SQ MI
                     PER A = 0  PER B = 50  PER C = 18  PER D = 32
                     TP = -0.13333 HRS  MASS RAIN = -1
PRINT HYD            ID = 5 CODE = 1
*
*   DISCHARGE FROM UPPER FIELD, NE SECTIONS OF ROOF FROM BUILDINGS D AND E, AND
*   NNE PORTION OF BUILDING F WITH AMPHITHEATER. ALSO INCLUDES AREAS BETWEEN BUILDINGS
*   F,D AND E, AND NW CORNER OF SITE.
*   THIS BASIN WILL BE DETAINED THROUGH THE UPPER POND WITH CONTROLLED RELEASE
*
COMPUTE NM HYD       ID = 6 HYD NO = S1 AREA = 0.014330 SQ MI
                     PER A = 13.3  PER B = 42.1  PER C = 18.0  PER D = 26.6
                     TP = -0.13333 HRS  MASS RAIN = -1
PRINT HYD            ID = 6 CODE = 1
*
```

```
*   ROUTE S1 THROUGH POND - 8" ORIFICE
*
ROUTE RESERVOIR      ID = 7  HYD NO = N2ROUTE  INFLOW ID = 6  CODE = 5
                     OUTFLOW (CFS)    STORAGE (AC FT)   ELEV(FT)
                     0                0                  58
                     3.37             0.00055            62
                     3.77             0.2731             63
                     3.95             0.6191             63.5
*
PRINT HYD            ID = 7 CODE = 1
*
*   DISCHARGE FROM BASIN S2 WHICH INCLUDES FOOTBALL AND SOCCER FIELDS
*   THIS BASIN WILL RECEIVE OUTFLOW FROM N-2 POND AND WILL SURGE / DETAINED
*   THROUGH SOCCER FIELD POND
*
COMPUTE NM HYD       ID = 8 HYD NO = S2 AREA = 0.012895 SQ MI
                     PER A = 0  PER B = 68  PER C = 9  PER D = 23
                     TP = -0.13333 HRS  MASS RAIN = -1
PRINT HYD            ID = 8 CODE = 1
*
*   ADD BASINS S2 AND ROUTED S1 THAT WILL BE ROUTED THROUGH SOCCER POND
*
ADD HYD              ID = 9  HYD NO = S12  ID I = 7  ID II = 8
PRINT HYD            ID = 9  CODE = 1
*
*   ROUTE COMBINED S1 AND S2 THROUGH SOCCER FIELD POND
*   3" ORIFICE PLATE RESTRICTS DISCHARGE
*
ROUTE RESERVOIR      ID = 10  HYD NO = S12ROUTE  INFLOW ID = 9  CODE = 5
                     OUTFLOW (CFS)    STORAGE (AC FT)   ELEV(FT)
                     0                0                  34.99
                     0.53             0.007              35
                     0.58             0.218              36
                     0.62             0.884              37
                     0.65             1.332              37.5
*
PRINT HYD            ID = 10 CODE = 1
*
*   DISCHARGE FROM BASIN S3 - SOUTH BASIN OF SCHOOL THAT WILL FREELY DISCHARGE TO
*   OFFSITE APS STORM DRAIN.  BASIN INCLUDES 26,065 SF OF NO DISCHARGE AREA
*   DUE TO RAISED PLANTERS THAT WILL RETAIN RUNOFF AS REQUIRED TO COMPLY WITH
*   COUNTY WATER CONSERVATION ORDINANCE
*
COMPUTE NM HYD       ID = 11 HYD NO = S3 AREA = 0.058120 SQ MI
                     PER A = 5.3  PER B = 5.8  PER C = 7.9  PER D = 81.0
                     TP = -0.165 HRS  MASS RAIN = -1
PRINT HYD            ID = 11 CODE = 1
*
*   ADD TO ROUTED SOCCER POND TO GET TOTAL DISCHARGE TO OFFSITE SD
*
ADD HYD              ID = 21 HYD NO = OFFSITE ID I = 11 ID II = 10
PRINT HYD            ID = 21 CODE = 1
*
*   ROUTE THROUGH OFFSITE SD TO CHANNEL - 48 INCH RCP S=0.0095, LENGTH = 1100 FT
*
```

```
* 48" R.C.P. at 0.0095
*
COMPUTE RATING CURVE RC=1 VS NO=1   CODE=-1   SLP=.0095
                     DIA=4 FT   N=.013
COMPUTE TRAVEL TIME  ID=24      REACH=1    NO VS=1
                     L=1100 ft SLP=0.0095 ft/ft
ROUTE                ID=24      HYD=OFFROUTE INFLOW HYD ID=21    DT=0.05
PRINT HYD            ID=24      CODE=1
*
*   ADD TO TRACT C RUNOFF TO GET TOTAL DISCHARGE TO AMAFCA CHANNEL FROM
*   TRACTS C AND D
*
ADD HYD              ID = 12 HYD NO = AMAFCA ID I = 24 ID II = 3
PRINT HYD            ID = 12 CODE = 1
*
*   ADD TO TRACT B RUNOFF TO GET TOTAL FLOW AT CHANNEL FROM TRACTS B, C AND D
*
ADD HYD              ID = 13  HYD NO = PERDIZ  ID I = 12 ID II = 1
PRINT HYD            ID = 13  CODE = 1
*
*   CALCULATE ORIGINAL BASIN A RUNOFF PER MDP ASUSMPTIONS
*
COMPUTE NM HYD       ID = 2 HYD NO = A AREA = 0.0513 SQ MI
                     PER A = 0  PER B = 40  PER C = 55  PER D = 5
                     TP = -0.13333 HRS  MASS RAIN = -1
PRINT HYD            ID = 2 CODE = 1
*
*   CALCULATE ORIGINAL BASIN B RUNOFF PER MDP ASUSMPTIONS
*
COMPUTE NM HYD       ID = 4 HYD NO = B AREA = 0.06410 SQ MI
                     PER A = 0  PER B = 28  PER C = 23  PER D = 49
                     TP = -0.13333 HRS  MASS RAIN = -1
PRINT HYD            ID = 4 CODE = 1
*
*   ADD ORIGINAL BASINS A AND B TO GET MDP DISCHARGE TO CHANNEL AT PERDIZ
*   FOR COMPARISON PURPOSES
*
ADD HYD              ID = 22 HYD NO = ORIGINAL ID I = 2 ID II = 4
PRINT HYD            ID = 22  CODE = 1
*
*
FINISH
```

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```
AHYMO PROGRAM (AHYMO_97) -                          - Version:  1997.02c
     RUN DATE (MON/DAY/YR) = 11/16/2007
     START TIME (HR:MIN:SEC) = 17:02:08     USER NO.= AHYMO-I-9702c0100021U-SH
     INPUT FILE = H:\PROGRAMS\AHYMO_97\200518~1.4\COMPAR~1.TXT

*2345678901234567890
*
*   APS SOUTHWEST HIGH SCHOOL MASTER DRAINAGE PLAN - REVISES BASINS A, B & B-4E
*   FROM WILSON & COMPANY MASTER PLAN DATED APRIL, 2000
*
*   JMA JOB NUMBER 2005.180.4
*
*
START                TIME = 0.0 HR  PUNCH CODE = 0  PRINT LINES = -1
*
*   RAINFALL DATA FROM DPM 22.2 - Zone 1
*
RAINFALL             TYPE = 2  RAIN QUARTER = 0.0
                     RAIN ONE = 1.87 IN  RAIN SIX = 2.20 IN
                     RAIN DAY = 2.66 IN  DT = 0.05

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
DT =     .050000 HOURS        END TIME =     24.000000 HOURS
   .0000   .0025   .0050   .0076   .0103   .0131   .0160
   .0190   .0222   .0254   .0289   .0324   .0362   .0401
   .0443   .0487   .0534   .0584   .0637   .0695   .0758
   .0837   .0924   .1176   .1773   .2798   .4384   .6668
   .9790  1.2253  1.3366  1.4295  1.5109  1.5836  1.6495
  1.7096  1.7648  1.8156  1.8624  1.9057  1.9458  1.9548
  1.9631  1.9708  1.9780  1.9848  1.9912  1.9973  2.0031
  2.0087  2.0140  2.0191  2.0240  2.0287  2.0333  2.0377
  2.0420  2.0462  2.0502  2.0542  2.0580  2.0617  2.0653
  2.0689  2.0724  2.0757  2.0791  2.0823  2.0855  2.0886
  2.0916  2.0946  2.0976  2.1005  2.1033  2.1061  2.1088
  2.1115  2.1142  2.1168  2.1193  2.1219  2.1244  2.1268
  2.1293  2.1316  2.1340  2.1363  2.1386  2.1409  2.1431
  2.1453  2.1475  2.1497  2.1518  2.1539  2.1560  2.1580
  2.1601  2.1621  2.1641  2.1660  2.1680  2.1699  2.1718
  2.1737  2.1756  2.1774  2.1793  2.1811  2.1829  2.1847
  2.1864  2.1882  2.1899  2.1916  2.1933  2.1950  2.1967
  2.1984  2.2000  2.2020  2.2039  2.2059  2.2078  2.2097
  2.2117  2.2136  2.2155  2.2174  2.2193  2.2212  2.2231
  2.2249  2.2268  2.2287  2.2305  2.2324  2.2342  2.2361
  2.2379  2.2398  2.2416  2.2434  2.2452  2.2470  2.2488
  2.2506  2.2524  2.2542  2.2559  2.2577  2.2595  2.2612
  2.2630  2.2647  2.2665  2.2682  2.2700  2.2717  2.2734
  2.2751  2.2768  2.2785  2.2802  2.2819  2.2836  2.2853
  2.2870  2.2887  2.2903  2.2920  2.2937  2.2953  2.2970
  2.2986  2.3002  2.3019  2.3035  2.3051  2.3068  2.3084
  2.3100  2.3116  2.3132  2.3148  2.3164  2.3180  2.3196
  2.3212  2.3227  2.3243  2.3259  2.3274  2.3290  2.3305
  2.3321  2.3336  2.3352  2.3367  2.3383  2.3398  2.3413
  2.3428  2.3444  2.3459  2.3474  2.3489  2.3504  2.3519
  2.3534  2.3549  2.3563  2.3578  2.3593  2.3608  2.3622
  2.3637  2.3652  2.3666  2.3681  2.3695  2.3710  2.3724
  2.3739  2.3753  2.3767  2.3782  2.3796  2.3810  2.3824
  2.3839  2.3853  2.3867  2.3881  2.3895  2.3909  2.3923
  2.3937  2.3951  2.3965  2.3978  2.3992  2.4006  2.4020
  2.4033  2.4047  2.4061  2.4074  2.4088  2.4101  2.4115
  2.4128  2.4142  2.4155  2.4168  2.4182  2.4195  2.4208
  2.4222  2.4235  2.4248  2.4261  2.4274  2.4287  2.4300
  2.4314  2.4327  2.4340  2.4352  2.4365  2.4378  2.4391
  2.4404  2.4417  2.4430  2.4442  2.4455  2.4468  2.4480
  2.4493  2.4506  2.4518  2.4531  2.4543  2.4556  2.4568
  2.4581  2.4593  2.4606  2.4618  2.4630  2.4643  2.4655
  2.4667  2.4680  2.4692  2.4704  2.4716  2.4728  2.4740
  2.4753  2.4765  2.4777  2.4789  2.4801  2.4813  2.4825
  2.4837  2.4849  2.4860  2.4872  2.4884  2.4896  2.4908
  2.4919  2.4931  2.4943  2.4955  2.4966  2.4978  2.4990
  2.5001  2.5013  2.5024  2.5036  2.5047  2.5059  2.5070
  2.5082  2.5093  2.5105  2.5116  2.5127  2.5139  2.5150
  2.5161  2.5172  2.5184  2.5195  2.5206  2.5217  2.5229
  2.5240  2.5251  2.5262  2.5273  2.5284  2.5295  2.5306
  2.5317  2.5328  2.5339  2.5350  2.5361  2.5372  2.5383
  2.5394  2.5404  2.5415  2.5426  2.5437  2.5448  2.5458
  2.5469  2.5480  2.5490  2.5501  2.5512  2.5522  2.5533
  2.5544  2.5554  2.5565  2.5575  2.5586  2.5596  2.5607
  2.5617  2.5628  2.5638  2.5649  2.5659  2.5669  2.5680
  2.5690  2.5700  2.5711  2.5721  2.5731  2.5741  2.5752
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2.5762  2.5772  2.5782  2.5792  2.5803  2.5813  2.5823
2.5833  2.5843  2.5853  2.5863  2.5873  2.5883  2.5893
2.5903  2.5913  2.5923  2.5933  2.5943  2.5953  2.5963
2.5973  2.5982  2.5992  2.6002  2.6012  2.6022  2.6031
2.6041  2.6051  2.6061  2.6070  2.6080  2.6090  2.6099
2.6109  2.6119  2.6128  2.6138  2.6148  2.6157  2.6167
2.6176  2.6186  2.6195  2.6205  2.6214  2.6224  2.6233
2.6243  2.6252  2.6261  2.6271  2.6280  2.6290  2.6299
2.6308  2.6318  2.6327  2.6336  2.6346  2.6355  2.6364
2.6373  2.6383  2.6392  2.6401  2.6410  2.6419  2.6428
2.6438  2.6447  2.6456  2.6465  2.6474  2.6483  2.6492
2.6501  2.6510  2.6519  2.6528  2.6537  2.6546  2.6555
2.6564  2.6573  2.6582  2.6591  2.6600

*
*   PRO-RATED ALLOWABLE DISCHARGE FOR W&C BASIN A (PLAT TRACT B)
*   THIS BASIN GOES DIRECTLY TO SOUTH TO CHANNEL PER MDP.  THE LAND TREATMENT
*   ARE UNCHANGED PER THE WILSON MDP WITH THE REDUCED AREA PER THE RE-PLAT.
*
COMPUTE NM HYD      ID = 1  HYD NO = A  AREA = 0.0265 SQ MI
                    PER A = 0 PER B = 40 PER C = 55  PER D = 5
                    TP = -0.13333 HRS  MASS RAIN = -1

     K =   .072665HR    TP =   .133330HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   5.2300    CFS   UNIT VOLUME =    .9971       B =   526.28      P60 = 1.8700
     AREA =      .001325 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .116472HR    TP =   .133330HR    K/TP RATIO =   .873562     SHAPE CONSTANT, N =  4.065516
     UNIT PEAK =   67.882    CFS   UNIT VOLUME =    1.001       B =   359.51      P60 = 1.8700
     AREA =      .025175 SQ MI    IA =    .41316 INCHES    INF =   1.00684 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD           ID = 1  CODE = 1

                                    HYDROGRAPH FROM AREA A


    RUNOFF VOLUME =      .91999 INCHES     =       1.3003 ACRE-FEET
    PEAK DISCHARGE RATE =      43.85 CFS  AT   1.500 HOURS   BASIN AREA =   .0265 SQ. MI.



*
*   PRO-RATED DISCHARGE FROM W&C BASIN B ADJUSTED FOR REDUCED SIZE OF PLAT TRACT
*   THIS TRACT C BASIN USES LAND TREATMENTS FROM W&C BASIN B AND IS ADJUSTED FOR
*   REPLATTED SIZE OF TRACT C
*
COMPUTE NM HYD      ID = 3 HYD NO = B  AREA = 0.046641 SQ MI
                    PER A = 0  PER B = 28  PER C = 23  PER D = 49
                    TP = -0.13333 HRS  MASS RAIN = -1

     K =   .072665HR    TP =   .133330HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   90.209    CFS   UNIT VOLUME =    .9990       B =   526.28      P60 = 1.8700
     AREA =      .022854 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .119688HR    TP =   .133330HR    K/TP RATIO =   .897682     SHAPE CONSTANT, N =  3.948659
     UNIT PEAK =   62.751    CFS   UNIT VOLUME =    1.001       B =   351.73      P60 = 1.8700
     AREA =      .023787 SQ MI    IA =    .43235 INCHES    INF =   1.06059 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD           ID = 3 CODE = 1

                                    HYDROGRAPH FROM AREA B


    RUNOFF VOLUME =     1.59741 INCHES     =       3.9736 ACRE-FEET
    PEAK DISCHARGE RATE =      99.33 CFS  AT   1.500 HOURS   BASIN AREA =   .0466 SQ. MI.



*
*PRINT HYD           ID = 3 CODE = 1
*
*   START FULLY DEVELOPED CONDITIONS FOR APS SOUTHWEST HIGH SCHOOL SITE
*
*   DISCHARGE FROM LOWER SECTION OF ATHLETIC FIELD - BASIN WILL FREELY DISCHARGE
*
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COMPUTE NM HYD       ID = 5 HYD NO = N AREA = 0.01511457 SQ MI
                     PER A = 0  PER B = 50  PER C = 18  PER D = 32
                     TP = -0.13333 HRS  MASS RAIN = -1

     K =   .072665HR    TP =   .133330HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   19.091    CFS   UNIT VOLUME =    .9986       B =   526.28      P60 = 1.8700
     AREA =      .004837 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .124369HR    TP =   .133330HR    K/TP RATIO =   .932792     SHAPE CONSTANT, N =  3.792059
     UNIT PEAK =   26.291    CFS   UNIT VOLUME =    1.001       B =   341.06      P60 = 1.8700
     AREA =      .010278 SQ MI    IA =    .46029 INCHES    INF =   1.13882 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD            ID = 5 CODE = 1

                                   HYDROGRAPH FROM AREA N


    RUNOFF VOLUME =     1.28148 INCHES     =       1.0330 ACRE-FEET
    PEAK DISCHARGE RATE =      28.01 CFS  AT   1.500 HOURS   BASIN AREA =   .0151 SQ. MI.


*
*   DISCHARGE FROM UPPER FIELD, NE SECTIONS OF ROOF FROM BUILDINGS D AND E, AND
*   NNE PORTION OF BUILDING F WITH AMPHITHEATER. ALSO INCLUDES AREAS BETWEEN BUI
*   F,D AND E, AND NW CORNER OF SITE.
*   THIS BASIN WILL BE DETAINED THROUGH THE UPPER POND WITH CONTROLLED RELEASE
*
COMPUTE NM HYD       ID = 6 HYD NO = S1 AREA = 0.014330 SQ MI
                     PER A = 13.3  PER B = 42.1  PER C = 18.0  PER D = 26.6
                     TP = -0.13333 HRS  MASS RAIN = -1

     K =   .072665HR    TP =   .133330HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   15.046    CFS   UNIT VOLUME =    .9985       B =   526.28      P60 = 1.8700
     AREA =      .003812 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .130784HR    TP =   .133330HR    K/TP RATIO =   .980902     SHAPE CONSTANT, N =  3.600116
     UNIT PEAK =   25.841    CFS   UNIT VOLUME =    1.001       B =   327.56      P60 = 1.8700
     AREA =      .010518 SQ MI    IA =    .49040 INCHES    INF =   1.22311 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD            ID = 6 CODE = 1

                                   HYDROGRAPH FROM AREA S1


    RUNOFF VOLUME =     1.14754 INCHES     =        .8770 ACRE-FEET
    PEAK DISCHARGE RATE =      24.31 CFS  AT   1.500 HOURS   BASIN AREA =   .0143 SQ. MI.


*
*   ROUTE S1 THROUGH POND - 8" ORIFICE
*
ROUTE RESERVOIR      ID = 7  HYD NO = N2ROUTE  INFLOW ID = 6  CODE = 5
                     OUTFLOW (CFS)    STORAGE (AC FT)   ELEV(FT)
                     0                0                  58
                     3.37             0.00055            62
                     3.77             0.2731             63
                     3.95             0.6191             63.5

  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	58.00	.000	.00
.25	.00	58.00	.000	.00
.50	.00	58.00	.000	.00
.75	.00	58.00	.000	.00
1.00	.00	58.00	.000	.00
1.25	1.10	59.25	.000	1.05
1.50	24.31	62.58	.159	3.60
1.75	8.60	63.21	.415	3.84
2.00	3.84	63.26	.451	3.86
2.25	1.35	63.22	.423	3.85

2.50	.67	63.13	.364	3.82
2.75	.36	63.03	.296	3.78
3.00	.21	62.82	.224	3.70
3.25	.14	62.56	.152	3.59
3.50	.10	62.30	.081	3.49
3.75	.08	62.04	.012	3.39
4.00	.07	58.14	.000	.12
4.25	.06	58.05	.000	.04
4.50	.06	58.09	.000	.07
4.75	.06	58.07	.000	.06
5.00	.07	58.08	.000	.07
5.25	.07	58.08	.000	.07
5.50	.07	58.09	.000	.07
5.75	.08	58.09	.000	.08
6.00	.08	58.10	.000	.08
6.25	.09	58.11	.000	.09
6.50	.09	58.11	.000	.09
6.75	.09	58.11	.000	.09
7.00	.09	58.11	.000	.09
7.25	.09	58.11	.000	.09
7.50	.09	58.11	.000	.09
7.75	.09	58.10	.000	.09
8.00	.09	58.10	.000	.09
8.25	.08	58.10	.000	.08
8.50	.08	58.10	.000	.08
8.75	.08	58.10	.000	.08
9.00	.08	58.10	.000	.08
9.25	.08	58.09	.000	.08
9.50	.08	58.09	.000	.08
9.75	.08	58.09	.000	.08
10.00	.08	58.09	.000	.08
10.25	.08	58.09	.000	.08
10.50	.07	58.09	.000	.07
10.75	.07	58.09	.000	.07
11.00	.07	58.09	.000	.07
11.25	.07	58.08	.000	.07
11.50	.07	58.08	.000	.07
11.75	.07	58.08	.000	.07
12.00	.07	58.08	.000	.07
12.25	.07	58.08	.000	.07
12.50	.07	58.08	.000	.07
12.75	.07	58.08	.000	.07
13.00	.07	58.08	.000	.07
13.25	.06	58.08	.000	.06
13.50	.06	58.08	.000	.06
13.75	.06	58.08	.000	.06

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
14.00	.06	58.07	.000	.06
14.25	.06	58.07	.000	.06
14.50	.06	58.07	.000	.06
14.75	.06	58.07	.000	.06
15.00	.06	58.07	.000	.06
15.25	.06	58.07	.000	.06
15.50	.06	58.07	.000	.06
15.75	.06	58.07	.000	.06
16.00	.06	58.07	.000	.06
16.25	.06	58.07	.000	.06
16.50	.06	58.07	.000	.06
16.75	.06	58.07	.000	.06
17.00	.06	58.07	.000	.06
17.25	.06	58.07	.000	.06
17.50	.05	58.06	.000	.05
17.75	.05	58.06	.000	.05
18.00	.05	58.06	.000	.05
18.25	.05	58.06	.000	.05
18.50	.05	58.06	.000	.05
18.75	.05	58.06	.000	.05
19.00	.05	58.06	.000	.05
19.25	.05	58.06	.000	.05
19.50	.05	58.06	.000	.05
19.75	.05	58.06	.000	.05
20.00	.05	58.06	.000	.05
20.25	.05	58.06	.000	.05
20.50	.05	58.06	.000	.05
20.75	.05	58.06	.000	.05
21.00	.05	58.06	.000	.05
21.25	.05	58.06	.000	.05
21.50	.05	58.06	.000	.05

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   21.75        .05     58.06       .000       .05
   22.00        .05     58.06       .000       .05
   22.25        .05     58.05       .000       .05
   22.50        .05     58.05       .000       .05
   22.75        .05     58.05       .000       .05
   23.00        .04     58.05       .000       .04
   23.25        .05     58.05       .000       .05
   23.50        .04     58.05       .000       .04
   23.75        .04     58.05       .000       .04
   24.00        .04     58.05       .000       .04
   24.25        .01     58.01       .000       .01
   24.50        .00     58.00       .000       .00
 PEAK DISCHARGE =        3.863 CFS - PEAK OCCURS AT HOUR    2.00
 MAXIMUM WATER SURFACE ELEVATION =       63.258
 MAXIMUM STORAGE =         .4515 AC-FT      INCREMENTAL TIME=     .050000HRS

*
PRINT HYD           ID = 7 CODE = 1

                                    HYDROGRAPH FROM AREA N2ROUTE


    RUNOFF VOLUME =     1.15339 INCHES     =        .8815 ACRE-FEET
    PEAK DISCHARGE RATE =       3.86 CFS  AT   2.000 HOURS   BASIN AREA =   .0143 SQ. MI.


*
*   DISCHARGE FROM BASIN S2 WHICH INCLUDES FOOTBALL AND SOCCER FIELDS
*   THIS BASIN WILL RECEIVE OUTFLOW FROM N-2 POND AND WILL SURGE / DETAINED
*   THROUGH SOCCER FIELD POND
*
COMPUTE NM HYD      ID = 8 HYD NO = S2 AREA = 0.012895 SQ MI
                    PER A = 0  PER B = 68  PER C = 9  PER D = 23
                    TP = -0.13333 HRS  MASS RAIN = -1

     K =   .072665HR    TP =   .133330HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   11.707    CFS   UNIT VOLUME =    .9983       B =   526.28      P60 = 1.8700
     AREA =      .002966 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .128084HR    TP =   .133330HR    K/TP RATIO =   .960654     SHAPE CONSTANT, N =  3.677948
     UNIT PEAK =   24.806    CFS   UNIT VOLUME =    1.001       B =   333.09      P60 = 1.8700
     AREA =      .009929 SQ MI    IA =    .48247 INCHES    INF =   1.20091 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD           ID = 8 CODE = 1

                                    HYDROGRAPH FROM AREA S2


    RUNOFF VOLUME =     1.09596 INCHES     =        .7537 ACRE-FEET
    PEAK DISCHARGE RATE =      21.57 CFS  AT   1.500 HOURS   BASIN AREA =   .0129 SQ. MI.


*
*   ADD BASINS S2 AND ROUTED S1 THAT WILL BE ROUTED THROUGH SOCCER POND
*
ADD HYD             ID = 9  HYD NO = S12  ID I = 7  ID II = 8
PRINT HYD           ID = 9  CODE = 1

                                    HYDROGRAPH FROM AREA S12


    RUNOFF VOLUME =     1.12618 INCHES     =       1.6352 ACRE-FEET
    PEAK DISCHARGE RATE =      25.17 CFS  AT   1.500 HOURS   BASIN AREA =   .0272 SQ. MI.


*
*   ROUTE COMBINED S1 AND S2 THROUGH SOCCER FIELD POND
*   3" ORIFICE PLATE RESTRICTS DISCHARGE
*
ROUTE RESERVOIR     ID = 10  HYD NO = S12ROUTE  INFLOW ID = 9  CODE = 5
                    OUTFLOW (CFS)    STORAGE (AC FT)   ELEV(FT)
                    0                0                 34.99
                    0.53             0.007             35
                    0.58             0.218             36
                    0.62             0.884             37
```

0.65 1 332 37.5

* * * * * * * * * * * * * * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	34.99	.000	.00
.25	.00	34.99	.000	.00
.50	.00	34.99	.000	.00
.75	.00	34.99	.000	.00
1.00	.00	34.99	.000	.00
1.25	1.91	35.00	.005	.38
1.50	25.17	36.04	.247	.58
1.75	11.35	36.59	.610	.60
2.00	7.07	36.84	.776	.61
2.25	5.00	37.00	.886	.62
2.50	4.39	37.10	.969	.63
2.75	4.09	37.18	1.044	.63
3.00	3.87	37.26	1.113	.64
3.25	3.71	37.33	1.178	.64
3.50	3.57	37.40	1.240	.64
3.75	3.45	37.46	1.299	.65
4.00	.17	37.47	1.305	.65
4.25	.09	37.46	1.294	.65
4.50	.12	37.45	1.283	.65
4.75	.11	37.43	1.272	.65
5.00	.12	37.42	1.261	.65
5.25	.12	37.41	1.250	.64
5.50	.13	37.40	1.239	.64
5.75	.13	37.38	1.229	.64
6.00	.14	37.37	1.218	.64
6.25	.17	37.36	1.208	.64
6.50	.17	37.35	1.199	.64
6.75	.16	37.34	1.189	.64
7.00	.16	37.33	1.179	.64
7.25	.16	37.32	1.169	.64
7.50	.16	37.31	1.159	.64
7.75	.15	37.30	1.149	.64
8.00	.15	37.28	1.139	.64
8.25	.15	37.27	1.129	.64
8.50	.15	37.26	1.119	.64
8.75	.15	37.25	1.109	.64
9.00	.14	37.24	1.099	.63
9.25	.14	37.23	1.089	.63
9.50	.14	37.22	1.078	.63
9.75	.14	37.21	1.068	.63
10.00	.14	37.19	1.058	.63
10.25	.13	37.18	1.048	.63
10.50	.13	37.17	1.037	.63
10.75	.13	37.16	1.027	.63
11.00	.13	37.15	1.017	.63
11.25	.13	37.14	1.006	.63
11.50	.12	37.12	.996	.63
11.75	.12	37.11	.986	.63
12.00	.12	37.10	.975	.63
12.25	.12	37.09	.965	.63
12.50	.12	37.08	.954	.62
12.75	.12	37.07	.944	.62
13.00	.12	37.06	.933	.62
13.25	.11	37.04	.923	.62
13.50	.11	37.03	.912	.62
13.75	.11	37.02	.902	.62

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
14.00	.11	37.01	.891	.62
14.25	.11	37.00	.881	.62
14.50	.11	36.98	.870	.62
14.75	.11	36.96	.860	.62
15.00	.11	36.95	.849	.62
15.25	.11	36.93	.839	.62
15.50	.10	36.92	.828	.62
15.75	.10	36.90	.817	.62
16.00	.10	36.88	.807	.62
16.25	.10	36.87	.796	.61
16.50	.10	36.85	.786	.61
16.75	.10	36.84	.775	.61
17.00	.10	36.82	.764	.61
17.25	.10	36.80	.754	.61

17.50	.10	36.79	.743	.61
17.75	.10	36.77	.733	.61
18.00	.09	36.76	.722	.61
18.25	.09	36.74	.711	.61
18.50	.09	36.72	.701	.61
18.75	.09	36.71	.690	.61
19.00	.09	36.69	.679	.61
19.25	.09	36.68	.669	.61
19.50	.09	36.66	.658	.61
19.75	.09	36.64	.647	.61
20.00	.09	36.63	.637	.61
20.25	.09	36.61	.626	.60
20.50	.09	36.60	.615	.60
20.75	.09	36.58	.605	.60
21.00	.09	36.56	.594	.60
21.25	.08	36.55	.583	.60
21.50	.08	36.53	.573	.60
21.75	.08	36.52	.562	.60
22.00	.08	36.50	.551	.60
22.25	.08	36.48	.540	.60
22.50	.08	36.47	.530	.60
22.75	.08	36.45	.519	.60
23.00	.08	36.44	.508	.60
23.25	.08	36.42	.498	.60
23.50	.08	36.40	.487	.60
23.75	.08	36.39	.476	.60
24.00	.08	36.37	.466	.59
24.25	.01	36.35	.454	.59
24.50	.00	36.34	.442	.59
24.75	.00	36.32	.430	.59
25.00	.00	36.30	.418	.59
25.25	.00	36.28	.406	.59
25.50	.00	36.26	.393	.59
25.75	.00	36.25	.381	.59
26.00	.00	36.23	.369	.59
26.25	.00	36.21	.357	.59
26.50	.00	36.19	.345	.59
26.75	.00	36.17	.333	.59
27.00	.00	36.15	.320	.59
27.25	.00	36.14	.308	.59
27.50	.00	36.12	.296	.58
27.75	.00	36.10	.284	.58

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
28.00	.00	36.08	.272	.58
28.25	.00	36.06	.260	.58
28.50	.00	36.05	.248	.58
28.75	.00	36.03	.236	.58
29.00	.00	36.01	.224	.58
29.25	.00	35.97	.212	.58
29.50	.00	35.92	.200	.58
29.75	.00	35.86	.188	.57

```
PEAK DISCHARGE =          .649 CFS - PEAK OCCURS AT HOUR     3.85
MAXIMUM WATER SURFACE ELEVATION =        37.477
 MAXIMUM STORAGE =        1.3116 AC-FT      INCREMENTAL TIME=     .050000HRS

*
PRINT HYD            ID = 10 CODE = 1

                                    HYDROGRAPH FROM AREA S12ROUTE


    RUNOFF VOLUME =     1.00382 INCHES      =        1.4575 ACRE-FEET
    PEAK DISCHARGE RATE =         .65 CFS  AT   3.850 HOURS   BASIN AREA =   .0272 SQ. MI.



*
*   DISCHARGE FROM BASIN S3 - SOUTH BASIN OF SCHOOL THAT WILL FREELY DISCHARGE T
*   OFFSITE APS STORM DRAIN.  BASIN INCLUDES 26,065 SF OF NO DISCHARGE AREA
*   DUE TO RAISED PLANTERS THAT WILL RETAIN RUNOFF AS REQUIRED TO COMPLY WITH
*   COUNTY WATER CONSERVATION ORDINANCE
*
COMPUTE NM HYD       ID = 11 HYD NO = S3 AREA = 0.058120 SQ MI
                     PER A = 5.3  PER B = 5.8  PER C = 7.9  PER D = 81.0
                     TP = -0.165 HRS  MASS RAIN = -1

     K =   .089925HR    TP =   .165000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   150.16    CFS   UNIT VOLUME =    .9995       B =   526.28      P60 = 1.8700
```

```
AREA =       .047077 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

K =   .160500HR    TP =   .165000HR    K/TP RATIO =   .972727     SHAPE CONSTANT, N =  3.631055
UNIT PEAK =   22.070    CFS   UNIT VOLUME =    1.000       B =   329.77      P60 = 1.8700
AREA =       .011043 SQ MI    IA =    .47947 INCHES    INF =   1.19253 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD           ID = 11 CODE = 1

                                    HYDROGRAPH FROM AREA S3

    RUNOFF VOLUME =     2.09987 INCHES     =       6.5090 ACRE-FEET
    PEAK DISCHARGE RATE =     128.94 CFS  AT   1.550 HOURS   BASIN AREA =   .0581 SQ. MI.


*
*   ADD TO ROUTED SOCCER POND TO GET TOTAL DISCHARGE TO OFFSITE SD
*
ADD HYD             ID = 21 HYD NO = OFFSITE ID I = 11 ID II = 10
PRINT HYD           ID = 21 CODE = 1

                                    HYDROGRAPH FROM AREA OFFSITE

    RUNOFF VOLUME =     1.75022 INCHES     =       7.9665 ACRE-FEET
    PEAK DISCHARGE RATE =     129.53 CFS  AT   1.550 HOURS   BASIN AREA =   .0853 SQ. MI.


*
*   ROUTE THROUGH OFFSITE SD TO CHANNEL - 48 INCH RCP S=0.0095, LENGTH = 1100 FT
*
* 48" R.C.P. at 0.0095
*
COMPUTE RATING CURVE RC=1 VS NO=1   CODE=-1   SLP=.0095
                     DIA=4 FT   N=.013

                                RATING CURVE PIPE SECTION  1.0
                                   WATER       FLOW        FLOW        MAX
                                  SURFACE      AREA        RATE        WIDTH
                                   ELEV        SQ FT       CFS         FT
                                    .00         .00         .00         .00
                                    .21         .25         .73        1.78
                                    .42         .69        3.19        2.44
                                    .63        1.25        7.41        2.91
                                    .83        1.90       13.33        3.25
                                   1.04        2.60       20.81        3.51
                                   1.25        3.36       29.70        3.71
                                   1.46        4.15       39.78        3.85
                                   1.67        4.96       50.87        3.94
                                   1.88        5.79       62.71        3.99
                                   2.08        6.62       75.05        4.00
                                   2.29        7.45       87.61        4.00
                                   2.50        8.27      100.11        4.00
                                   2.71        9.06      112.20        4.00
                                   2.92        9.82      123.52        4.00
                                   3.13       10.54      133.66        4.00
                                   3.34       11.20      142.09        4.00
                                   3.54       11.77      148.13        4.00
                                   3.75       12.24      150.61        4.00
                                   4.00       12.57      150.61        4.00
COMPUTE TRAVEL TIME  ID=24      REACH=1    NO VS=1
                     L=1100 ft SLP=0.0095 ft/ft

                         TRAVEL TIME TABLE
                                        REACH=  1.0

                         WATER       AVERAGE     FLOW        TRAVEL
                         DEPTH       AREA        RATE        TIME
                         FEET        SQ.FT.      CFS         HRS
                           .208        .250         .73       .1039
                           .417        .695        3.19       .0666
                           .625       1.255        7.41       .0517
                           .834       1.898       13.33       .0435
                          1.042       2.604       20.81       .0382
                          1.251       3.358       29.70       .0345
                          1.459       4.146       39.78       .0318
```

```
                                  1.668       4.960       50.87       .0298
                                  1.876       5.788       62.71       .0282
                                  2.084       6.621       75.05       .0270
                                  2.293       7.451       87.61       .0260
                                  2.501       8.267      100.11       .0252
                                  2.710       9.062      112.20       .0247
                                  2.918       9.823      123.52       .0243
                                  3.127      10.539      133.66       .0241
                                  3.335      11.195      142.09       .0241
                                  3.544      11.773      148.13       .0243
                                  3.752      12.243      150.61       .0248
                                  4.000      12.566      150.61       .0255
ROUTE                  ID=24      HYD=OFFROUTE INFLOW HYD ID=21    DT=0.05
PRINT HYD              ID=24      CODE=1

                                  HYDROGRAPH FROM AREA OFFROUTE


    RUNOFF VOLUME =      1.74914 INCHES      =        7.9616 ACRE-FEET
    PEAK DISCHARGE RATE =     130.04 CFS  AT   1.550 HOURS   BASIN AREA =   .0853 SQ. MI.


*
*   ADD TO TRACT C RUNOFF TO GET TOTAL DISCHARGE TO AMAFCA CHANNEL FROM
*   TRACTS C AND D
*
ADD HYD                ID = 12 HYD NO = AMAFCA ID I = 24 ID II = 3
PRINT HYD              ID = 12 CODE = 1

                                  HYDROGRAPH FROM AREA AMAFCA


    RUNOFF VOLUME =      1.69553 INCHES      =       11.9352 ACRE-FEET
    PEAK DISCHARGE RATE =     218.66 CFS  AT   1.550 HOURS   BASIN AREA =   .1320 SQ. MI.


*
*   ADD TO TRACT B RUNOFF TO GET TOTAL FLOW AT CHANNEL FROM TRACTS B, C AND D
*
ADD HYD                ID = 13  HYD NO = PERDIZ  ID I = 12 ID II = 1
PRINT HYD              ID = 13  CODE = 1

                                  HYDROGRAPH FROM AREA PERDIZ


    RUNOFF VOLUME =      1.56585 INCHES      =       13.2354 ACRE-FEET
    PEAK DISCHARGE RATE =     260.81 CFS  AT   1.500 HOURS   BASIN AREA =   .1585 SQ. MI.


*
*   CALCULATE ORIGINAL BASIN A RUNOFF PER MDP ASUSMPTIONS
*
COMPUTE NM HYD         ID = 2 HYD NO = A AREA = 0.0513 SQ MI
                       PER A = 0  PER B = 40  PER C = 55  PER D = 5
                       TP = -0.13333 HRS  MASS RAIN = -1

    K =   .072665HR    TP =   .133330HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   10.124    CFS   UNIT VOLUME =    .9981       B =   526.28      P60 = 1.8700
    AREA =       .002565 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


    K =   .116472HR    TP =   .133330HR    K/TP RATIO =   .873562     SHAPE CONSTANT, N =  4.065516
    UNIT PEAK =   131.41    CFS   UNIT VOLUME =   1.001       B =   359.51      P60 = 1.8700
    AREA =       .048735 SQ MI    IA =    .41316 INCHES    INF =   1.00684 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD              ID = 2 CODE = 1

                                  HYDROGRAPH FROM AREA A


    RUNOFF VOLUME =       .92000 INCHES      =        2.5171 ACRE-FEET
    PEAK DISCHARGE RATE =      84.86 CFS  AT   1.500 HOURS   BASIN AREA =   .0513 SQ. MI.


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*   CALCULATE ORIGINAL BASIN B RUNOFF PER MDP ASUSMPTIONS
*
COMPUTE NM HYD       ID = 4 HYD NO = B AREA = 0.06410 SQ MI
                     PER A = 0  PER B = 28  PER C = 23  PER D = 49
                     TP = -0.13333 HRS  MASS RAIN = -1

     K =   .072692HR    TP =   .133330HR    K/TP RATIO =   .545204     SHAPE CONSTANT, N =  7.103026
     UNIT PEAK =   123.94    CFS   UNIT VOLUME =    .9990       B =   526.12      P60 = 1.8700
     AREA =      .031409 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .119642HR    TP =   .133330HR    K/TP RATIO =   .897338     SHAPE CONSTANT, N =  3.950269
     UNIT PEAK =   86.267    CFS   UNIT VOLUME =    1.001       B =   351.84      P60 = 1.8700
     AREA =      .032691 SQ MI    IA =    .43235 INCHES    INF =   1.06059 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD            ID = 4 CODE = 1

                                        HYDROGRAPH FROM AREA B


    RUNOFF VOLUME =     1.59742 INCHES     =       5.4610 ACRE-FEET
    PEAK DISCHARGE RATE =     136.50 CFS  AT   1.500 HOURS   BASIN AREA =   .0641 SQ. MI.


*
*   ADD ORIGINAL BASINS A AND B TO GET MDP DISCHARGE TO CHANNEL AT PERDIZ
*   FOR COMPARISON PURPOSES
*
ADD HYD              ID = 22 HYD NO = ORIGINAL ID I = 2 ID II = 4
PRINT HYD            ID = 22  CODE = 1

                                        HYDROGRAPH FROM AREA ORIGINAL


    RUNOFF VOLUME =     1.29627 INCHES     =       7.9781 ACRE-FEET
    PEAK DISCHARGE RATE =     221.36 CFS  AT   1.500 HOURS   BASIN AREA =   .1154 SQ. MI.


*
*
FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 17:02:08
□(s10H□□□□□□□□□□□□□□
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Worksheet
Worksheet for Circular Channel

Project Description	
Worksheet	Circular Channel
Flow Element	Circular Channel
Method	Manning's Formu
Solve For	Channel Depth

Input Data		
Mannings Coeffic	0.013	
Slope	009500	ft/ft
Diameter	48	in
Discharge	130.60	cfs

← Proposed

Results		
Depth	3.06	ft
Flow Area	10.3	ft²
Wetted Perime	8.52	ft
Top Width	3.39	ft
Critical Depth	3.42	ft
Percent Full	76.5	%
Critical Slope	0.007726	ft/ft
Velocity	12.66	ft/s
Velocity Head	2.49	ft
Specific Energ	5.55	ft
Froude Numbe	1.28	
Maximum Disc	150.60	cfs
Discharge Full	140.00	cfs
Slope Full	0.008267	ft/ft
Flow Type	Supercritical	

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Worksheet
Worksheet for Circular Channel

Project Description	
Worksheet	Circular Channel
Flow Element	Circular Channel
Method	Manning's Formu
Solve For	Full Flow Capacit ←

Input Data		
Mannings Coeffic	0.013	
Slope	009500	ft/ft
Diameter	48	in

Results		
Depth	4.00	ft
Discharge	140.00	cfs
Flow Area	12.6	ft²
Wetted Perime	12.57	ft
Top Width	0.00	ft
Critical Depth	3.51	ft
Percent Full	100.0	%
Critical Slope	008574	ft/ft
Velocity	11.14	ft/s
Velocity Head	1.93	ft
Specific Energ	5.93	ft
Froude Numbe	0.00	
Maximum Disc	150.60	cfs
Discharge Full	140.00	cfs
Slope Full	009500	ft/ft
Flow Type	N/A	

Worksheet
Worksheet for Trapezoidal Channel

Project Description	
Worksheet	Trapezoidal Channe
Flow Element	Trapezoidal Channe
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coeffic	0.018	
Slope	027012	ft/ft
Left Side Slope	0.50	V : H
Right Side Slope	0.50	V : H
Bottom Width	10.00	ft
Discharge	728.00	cfs ← Record

Results		
Depth	2.47	ft ← Record
Flow Area	36.9	ft²
Wetted Perim	21.05	ft
Top Width	19.88	ft
Critical Depth	4.15	ft
Critical Slope	0.003659	ft/ft
Velocity	19.73	ft/s
Velocity Head	6.05	ft
Specific Energ	8.52	ft
Froude Numb	2.55	
Flow Type	Supercritical	

Worksheet
Worksheet for Trapezoidal Channel

Project Description	
Worksheet	Trapezoidal Channe
Flow Element	Trapezoidal Channe
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coeffic	0.017	
Slope	027012	ft/ft
Left Side Slope	0.50	V : H
Right Side Slope	0.50	V : H
Bottom Width	10.00	ft
Discharge	767.00	cfs ← Proposed

Results		
Depth	2.46	ft ← Proposed
Flow Area	36.8	ft²
Wetted Perim	21.02	ft
Top Width	19.85	ft
Critical Depth	4.27	ft
Critical Slope	0.003242	ft/ft
Velocity	20.86	ft/s
Velocity Head	6.76	ft
Specific Energ	9.22	ft
Froude Numb	2.70	
Flow Type	Supercritical	

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