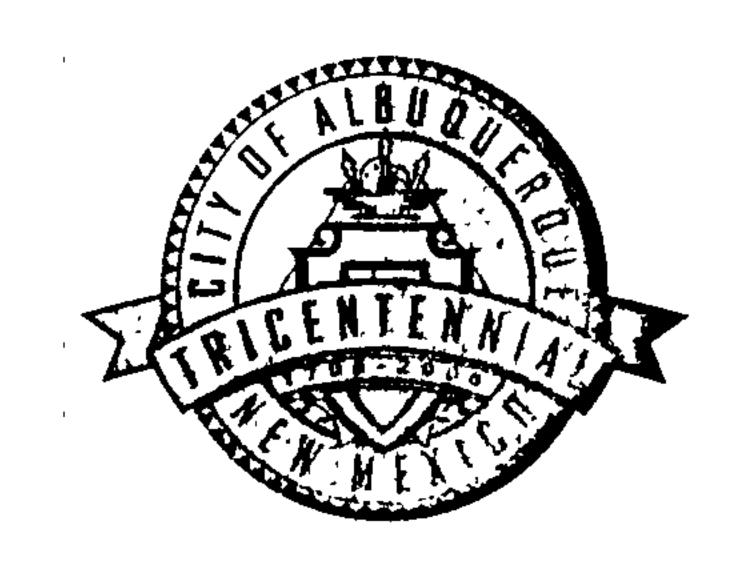
DEVELOPMENT & BUILDING SERVICE CENTER ONE STOP SHOP

600 SECOND ST. N.W.
ATTENTION: ALBUQUER QUE, REPROGRAPHICS
505-924-3900

Records Withdrawal Form
Project No. 749381 Date: Aug 5, 2005
Project Title: LOS ANTEPASADOS SUBDIVISION
a. File b. Mylars c. Redlines/Comments d. Other Approved GID PLAN SHEET
Requested by: Luis MENDEZ BOHANNAN-HUSTON Phone No.: 823-1000 Name and Company Phone No.: 823-1000 798-7927
Comments: PLEASE MAKE 1. PAPER COPY OF GRADING AND
DRAINAGE PLAN OF "LOS ANTEPASADOS SUBDIVISION."
Anticipated Return Date: Aug 8, 2005 I hereby accept full responsibility for the security of the above noted records/plans until return receipt acknowledgement is completed. Records/plans will be returned to the Development and Building Services Center on or before the indicted anticipated return date.
Delivery Picked Up By: Name:
Signed: Date:
Office Use Only
Return Acknowledged:
Received By: $\frac{1 \text{ im } 5 \text{ im } 5}{1 \text{ Date:}}$ Date: $\frac{8}{8}/85$

Print

CITY OF ALBUQUERQUE



October 26, 2006

Mr. David Thompson, PE
THOMPSON ENGINEERING CONSULTANTS, INC.
4800 Juan Tabo Blvd. NE, Suite C
Albuquerque, NM 87111

RE: LOS ANTEPESADOS SUBDIVISION (K-11/D58)

Engineers Certification for Release of Financial Guaranty

Engineers Stamp dated 07/14/2004

Engineers Certification dated 10/25/2006

Dear Dave:

P.O. Box 1293

Based upon the information provided in your Engineer's Certification Submittal dated 10/25/2006, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty.

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

Albuquerque

Sincerely,

New Mexico 87103

Arlene V. Portillo

Plan Checker, Planning Dept.- Hydrology Development and Building Services

arlene V. Portillo

www.cabq.gov

C: Marilyn Maldonado, COA# 749381

File

DRAINAGE INFORMATION SHEET

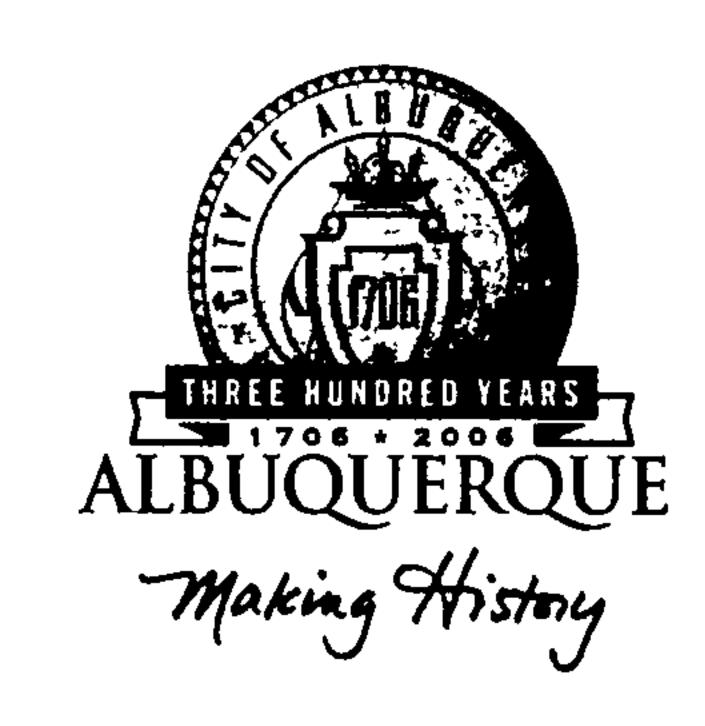
(REV. 1/28/2003rd)

PROJECT TITLE: LOS ANTEPESADOS SUBDIVISION DRB #:EPC #:W	ZONE MAP/DRG. FILE #: <u>K11/D58</u> ORK ORDER#:
LEGAL DESCRIPTION: LOT 1-B OF THE TOWN OF ATRISCO GRACITY ADDRESS:	NT, UNIT 6
ENGINEERING FIRM: Thompson Engineering Consultants, Inc. ADDRESS: 4800 Juan Tabo NE, Suite C CITY, STATE: Albuquerque, NM OWNER: Interfirst Properties, Inc. ADDRESS: 12809 Donette Ct. NE CITY, STATE: Albuquerque, NM ARCHITECT: ADDRESS: CITY, STATE:	CONTACT: David Thompson PHONE: 271-2199 ZIP CODE: 87111 CONTACT: Phillip Lindborg PHONE: 291-0353 ZIP CODE: 87112 CONTACT: PHONE: ZIP CODE:
SURVEYOR: Wayjohn Surveying, Inc. ADDRESS: 330 Louisiana Blvd. NE CITY, STATE: Albuquerque, NM	CONTACT: Thomas Johnston PHONE: 255-2052 ZIP CODE: 87108
CONTRACTOR: ADDRESS: CITY, STATE:	CONTACT:PHONE:
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 XX ENGINEER'S CERTIFICATION (HYDROLOGY) CLOMR/LOMR TRAFFIC CIRCULATION LAYOUT (TCL) ENGINEER'S CERTIFICATION(TCL) ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN) OTHER	CHECK TYPE OF APPROVAL SOUGHT: XX 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: YESXX NO COPY PROVIDED	D 国区国V国 OCT 2 5 2006
DATE SUBMITTED: October 25, 2006 BY:	A Aly

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

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

CITY OF ALBUQUERQUE



July 21, 2004

Dave Thompson, PE
Thompson Engineering Consultants, Inc.
4800-C Juan Tabo NE
Albuquerque, NM 87111

Re: Los Antepesados Subdivision Drainage Report Engineer's Stamp dated 3-23-04, (K11/D58)

Dear Mr. Thompson,

Based on information contained in your submittal dated 7-14-04, the above referenced report is approved for Preliminary Plat action by the DRB. Once that board approves the plan, please submit a mylar copy for my signature in order to obtain a Rough Grading Permit.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. Refer to the attachment that is provided with this letter for details. If you have any questions please feel free to call the Municipal Development Department, Hydrology section at 768-3654 (Charles Caruso).

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

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

Sincerely,

C: Chuck Caruso, DMD Hydrology, file

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

Albuquerque - Making History 1706-2006 ?

DRAINAGE INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: LOS ANTEPESADOS SUBDIVISION DRB #:EPC #:WC	ZONE MAP/DRG. FILE #: <u>K11/D58</u> ORK ORDER#:
LEGAL DESCRIPTION: LOT 1-B OF THE TOWN OF ATRISCO GRAN CITY ADDRESS:	T, UNIT 6
ENGINEERING FIRM: Thompson Engineering Consultants, Inc. ADDRESS: 4800 Juan Tabo NE, Suite C CITY, STATE: Albuquerque, NM	CONTACT: <u>David Thompson</u> PHONE: <u>271-2199</u> ZIP CODE: <u>87111</u>
OWNER: Interfirst Properties, Inc. ADDRESS: 12809 Donette Ct. NE CITY, STATE: Albuquerque, NM	CONTACT: Phillip Lindborg PHONE: 291-0353 ZIP CODE: 87112
ARCHITECT: ADDRESS: CITY, STATE:	CONTACT:PHONE:
SURVEYOR: Wayjohn Surveying, Inc. ADDRESS: 330 Louisiana Blvd. NE CITY, STATE: Albuquerque, NM	CONTACT: Thomas Johnston PHONE: 255-2052 ZIP CODE: 87108
CONTRACTOR: ADDRESS: CITY, STATE:	CONTACT:PHONE: ZIP CODE:
CHECK TYPE OF SUBMITTAL: DRAINAGE REPORT DRAINAGE PLAN 1st SUBMITTAL, REQUIRES TCL or equal XX DRAINAGE PLAN RESUBMITTAL CONCEPTUAL GRADING & DRAINAGE PLAN GRADING PLAN EROSION CONTROL PLAN ENGINEER'S CERTIFICATION (HYDROLOGY) CLOMR/LOMR TRAFFIC CIRCULATION LAYOUT (TCL) ENGINEER'S CERTIFICATION(TCL) ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN) OTHER	CHECK TYPE OF APPROVAL SOUGHT: SIA/FINANCIAL GUARANTEE RELEASE XX 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.) XX GRADING PERMIT APPROVAL PAVING PERMIT APPROVAL WORK ORDER APPROVAL OTHER (SPECIFY)
WAS A PRE-DESIGN CONFERENCE ATTENDED: YES NO COPY PROVIDED	[D] [B] (B] [D] [D] [D] [D] [D] [D] [D] [D] [D] [D
DATE SUBMITTED: July 14, 2004 BY:	HYDROLOGY SECTION

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

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

THOMPSON Engineering Consultants, Inc.

July 14, 2004

Mr. Brad Bingham, P.E.
Principal Engineer, Planning Department
Development and Building Services
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Re: RESUBMITTAL OF DRAINAGE REPORT FOR LOS ANTEPASADOS SUBDIVISION (K11/D58)

Dear Mr. Bingham:

Enclosed please find the revised Drainage Report for the Los Antepesados Subdivision. The following are responses to your comments in your letter Dated May 27, 2004.

- 1. A discussion of the collection of runoff in Sunset Gardens and Corregidor has been added to the report. Runoff from Corregidor south of the site is collected by storm inlets in the intersection of Salvador and Corregidor. As-built P & P for Corregidor and design P & P for Sunset Gardens is included in the appendices of the report.
- 2. The plan does show elevations outside of the site except in the cemetery to the east and the lot south of the site. The cemetery and the lot to the south basically follow the elevations on the site adjacent to those locations. The surveyor was not able to access the lot to the south because it was locked. The grading plan shows existing elevations on the north side of Sunset Gardens and the design profile is included in the appendices.
- 3. The lots abutting the cemetery do not drain to the cemetery. The backyards of lots 41 & 42 drain to retention ponds away from the retaining wall.

If you should have any questions, please call me at 271-2199.

Sincerely,

David B. Thompson, P.E.

4800 Juan Tabo NE, Suite C • Albuquerque, NM 87111 • (505) 271-2199 • Fax (505) 237-8422

HYDROLOGY SECTION

FOR LOS ANTEPESADOS SUBDIVISION



FOR LOS ANTEPESADOS SUBDIVISION

Prepared for: INTERFIRST PROPERTIES, INC.

Prepared by:
Thompson Engineering Consultants, Inc.
4800 Juan Tabo N.E., Suite C
Albuquerque, NM 87111

July 2004

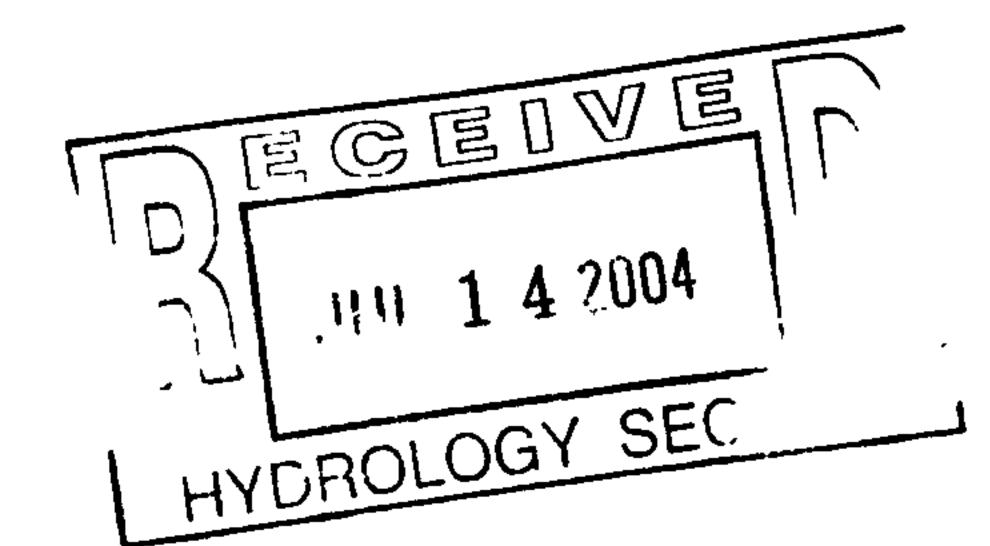


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POCKET

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INTRODUCTION AND SITE LOCATION

The proposed Los Antepesados Subdivision is located on the east side of Corregidor Street between Sunset Gardens Road and Salvador Road. The 5.56-acre site lies just south of Vista Pacifica Subdivision. Adjacent to the property to the northeast is a cemetery. The property will be subdivided into 42 residential lots. This report specifically addresses the grading and drainage plan and analysis for Trementina Oeste.

METHODOLOGY

The hydrologic and hydraulic criteria in Section 22 of the City of Albuquerque Development Process Manual (DPM), entitled "Drainage, Flood Control, and Erosion Control," was followed to perform the analyses given in this report. The design storm used for both the existing undeveloped and developed conditions of the Tuscany West Unit 5 Subdivision is the 100-year, 6-hour storm event for peak flow computations.

Street capacities were modeled using Haested Flowmaster program to determine normal depths and conjugate depths. A hydraulic analysis of the storm sewer collection system was performed to assist in the sizing of the infrastructure.

EXISTING DRAINAGE CONDITIONS

INTRODUCTION

The site drains from northwest to southeast at an average slope of about 1%. The site is sparsely vegetated with native grasses and scrub brush. There is an existing 48"/54" storm drain in Corregidor that drains north to the Gonzales pond. This storm drain collects runoff in Corregidor through storm inlets at the Salvador/Corregidor intersection. An existing 24" storm drain in Sunset Gardens collects flows from the north half of the right-of-way and drains into the 54" storm drain in Corregidor. The peak flow from the site is 7.2 cfs.

The FEMA Flood Insurance Rate Map Number 35001C0329E, effective date November 19, 2003, shown in Figure 1, indicates the presence of a Zone X flood hazard zone on the site. Zone X is an area in the 500-year flood or areas less than 1 foot deep 100-year flood. This Zone X is a remnant from the Zone AE that was previously on the site, but was removed by the City after the Gonzales Pond was constructed.

OFF-SITE FLOWS

There are no offsite flows that reach the site.

ON-SITE FLOWS

For the existing conditions hydrologic analysis, Land Treatment Type A was used to determine peak flows. The peak flow from the site is 7.2 cfs. The majority of the site runoff ponds on-site in natural depressions. A portion of the site drains southeast down the escarpment.

Table 1 Existing Drainage Conditions

BASINS	∴ Area ः	100yr-6hr	3 100yr-6hr 3 1	100yr-10 day	Land Treatment.
	(acres)	Peak Flow	Runoff Volume (acre-ft)	Runoff Volume (acre-ft)	
SITE	5.56	7.2	0.204	0.204	100%A

DEVELOPED DRAINAGE CONDITIONS

DRAINAGE BASIN DELINEATION

Plate 1 shows that the site is divided into eight drainage basins. Basins 110 and 120 are on Lot 42 of the subdivision. Basin 110 includes the access easement to the cemetery. Because Basin 110 is below the elevation of Sunset Gardens Road, the basin drains to a pond located east of the asphalt drive that accesses the cemetery. Basin 120, which includes the house pad on Lot 42 drains to Sunset Gardens and is collected by a storm inlet that connects to a 24" storm drain. The back yard of lots 41 and 42 are drain to retention ponds on each lot. Basin 210 is located on the southeast side of the subdivision. Basin 210 follows historic flow patterns and drains to the southeast down the escarpment. Basin 210 does not include any impervious area and therefore runoff does not increase from existing conditions to developed conditions. Basins 310, 320, and 330 all drain to the southwest portion of the subdivision through Los Viejos and Los Abuelos. The runoff from these basins is collected in storm inlets, which ties into a 24" storm drain that drains into a 48" storm drain in Corregidor Place. The 48" storm drain turns into a 54" storm drain that drains to the Gonzales Pond located north of the subdivision at the intersection of Corregidor Place and Gonzales Road. A total of 17.32 cfs is collected by storm inlets in Los Abuelos and discharged through the 24" storm drain to the 48" storm drain in Corregidor. Basin 410 includes the south half of the right-of-way for Sunset Gardens. This basin starts at the intersection of Oasis Drive and Sunset Gardens and continues to the access to the cemetery where the runoff is collected by a Type C inlet. Basin 420 includes the east half of the Corregidor right-of-way from Sunset Gardens to Los Abuelos. The runoff from Basin 420 is collected by a Type A inlet in the east curb line of Corregidor and drained into the existing 54" Storm drain.

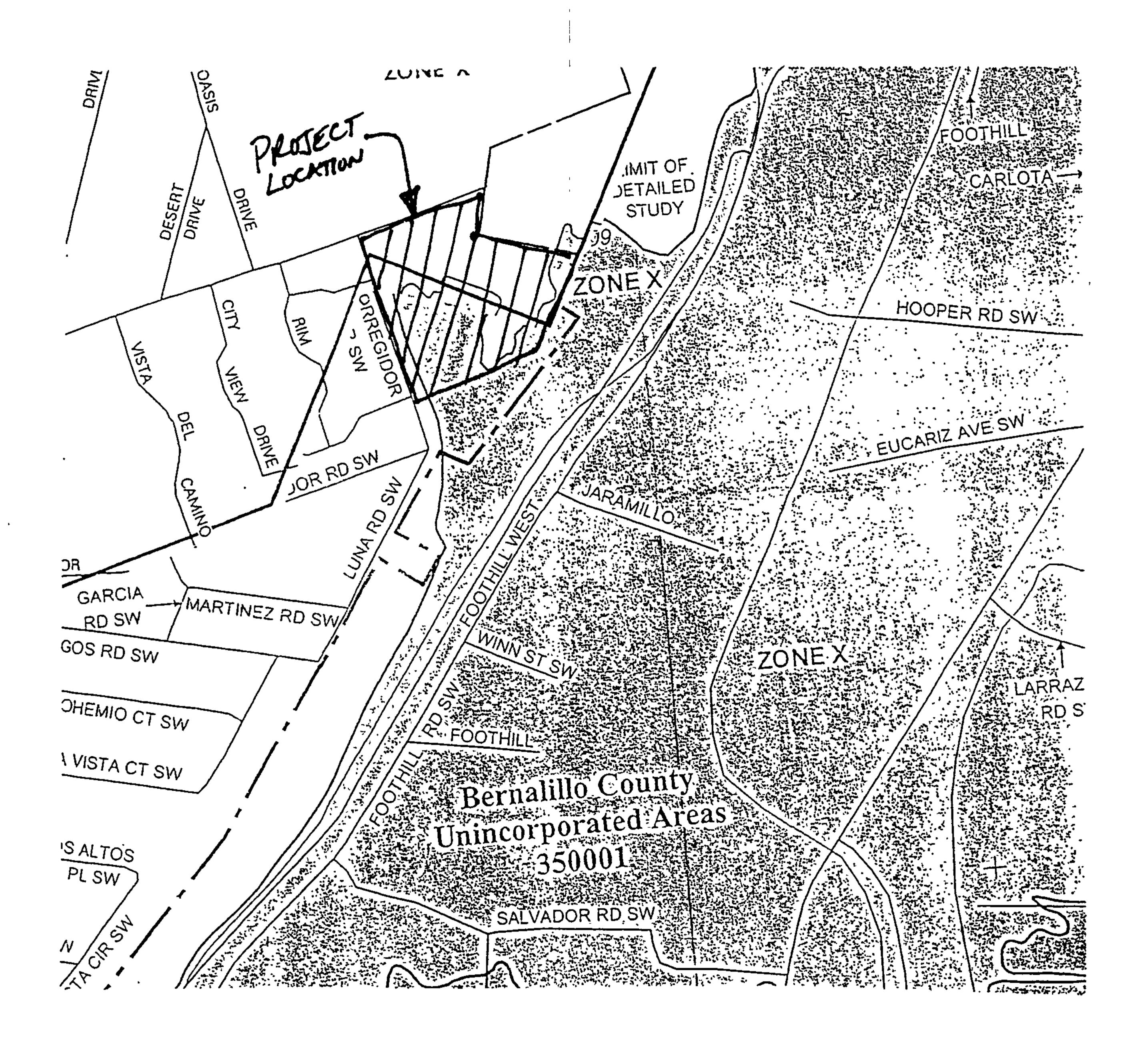


Figure 1 FEMA Flood Insurance Rate Map

HYDROLOGIC ANALYSIS

To determine the peak flows of each basin a hydrologic analysis was performed in accordance to section 22.2 of the Development Process Manual (DPM). The 100-year 6-hour storm was the basis for determining peak flows to size the storm sewer inlets (see Appendix A). The 10-year 6-hour storm was the basis for determining peak flows to calculate the hydraulic grad line in the proposed storm sewer extension (see Appendix A). The property is located in Zone 1, which has a 100-year 6-hour storm event of 2.20 inches.

The site was assigned land treatment values in accordance with Tables A-4 and A-5 of the DPM's section 22.2. Table 1 shows the Land Treatments and peak flows for each basin. See Appendix A for hydrologic calculations.

Land Treatment 100-yr 10day a 100yr-6hr Peak Runoff -Runoff Volume acres) Flow (acre-ft) 🕾 Volume (cfs) (acre-ft) 0.063 110 0.008 0.23 ·17.5% B, 17.5% C, 65% D 0.013 120 0.135 0.013 0.41 0.018 35% B, 35% C, 30% D 210 0.340 0.98 0.028 0.028 100% C 310 2.100 7.13 0.243 0.369 25% B, 26% C, 49% D 320 2.370 8.27 0.286 23% B, 23% C, 54% D 0.442 330 0.550 22% B, 23% C, 55% D 1.93 0.067 0.103 410 0.642 2.23 0.077 23.5%B,23.5%C,53%D 0.119

0.097

7.5%B,7.5%C,85%D

0.058

Table 2 Developed Drainage Conditions

DRAINAGE CONCEPT

0.384

1.57

Introduction

420

This drainage report addresses the drainage concept for the developed condition of the Los Antepesados subdivision. The majority of the subdivision (basins 310, 320, & 330) drains to the southwest part of the property where the runoff is collected by two type double C storm inlets in a sump condition. The storm inlets are connected to a 24" storm drain that connects to an existing 48" storm drain in Corregidor Place. The 48" storm drain in Corregidor drains north to the Gonzales Pond located at Gonzales Road. The Gonzales Pond was sized to hold the developed flows from this site.

Basins 110 and 120 are on Lot 42 of the subdivision. Basin 110 includes the access easement to the cemetery. Because Basin 110 is below the elevation of Sunset Gardens Road, the basin drains to a pond located east of the asphalt drive that accesses the

cemetery. Basin 120, which includes the house pad on Lot 42 drains to Sunset Gardens and is collected by a storm inlet that connects to a 24" storm drain. Basin 210 is located on the southeast side of the subdivision. Basin 210 follows historic flow patterns and drains to the southeast down the escarpment. Basin 210 does not include any impervious area and therefore runoff does not increase from existing conditions to developed conditions.

Basin 410 includes the south half of the right-of-way for Sunset Gardens. This basin starts at the intersection of Oasis Drive and Sunset Gardens and continues to the access to the cemetery where the runoff is collected by a Type C inlet. Basin 420 includes the east half of the Corregidor right-of-way from Sunset Gardens to Los Abuelos. The runoff from Basin 420 is collected by a Type A inlet in the east curb line of Corregidor and drained into the existing 54" Storm drain.

Street Hydraulic Analysis

A hydraulic analysis of the street flows was completed to determine normal depth and sequent depth of the flow (see Appendix B). The sequent depth must remain within the street right-of-way. Therefore, the sequent depth must be equal to or less than 0.51 feet or 0.85 feet, for the streets that have 4" mountable curb and gutter or standard curb and gutter, respectively. A normal depth analysis using Haested Methods Flowmaster program was completed. Flowmaster automatically calculates the energy grade depth, which is always greater than the sequent depth. Therefore, if the energy grade depth is equal to or less than 0.51 feet for a street section with mountable curb and gutter, then the sequent depth is also less than 0.51 feet. Los Viejos and Los Abuelos energy grade lines are less than 0.51 feet, therefore the flows all stay in the street right-of-way. Table 2 shows the results of the analysis including the energy grade depth.

Table 3 Street Hydraulic Analysis

	Widt h (ft)	Slope (%)	Contributing Basins	Flow (cfs)	Normal Depth	Energy Grade Depth (ft)
Los Viejos	26	0.79	310	8.27	0.27	0.35
Los Abuelos east of Los Viejos	28	0.50	320	7.13	0.27	0.33
Los Abuelos west of Los Viejos	28	0.50	310, 320,330	17.32	0.38	0.48

Storm Sewer Hydraulics Analysis

Once the hydrologic analysis was completed, a hydraulics analysis was performed to size the proposed storm sewer pipe. The storm sewer hydraulic grade line of the 48" & 54" storm drain in Corregidor was used as a starting point. Also, storm inlets in a sump condition were sized. The hydraulics analysis is shown in Appendix B.

Grading Plan

Plate 1 shows the Mass Grading Plan for the subdivision. The grading plan shows that the subdivision will drain from north to south and into the proposed storm drain in Corregidor Place. There are no retaining walls required for the subdivision.

APPENDIX A HYDROLOGIC CALCULATIONS

HYDROLOGIC CALCULATIONS SECTION 22.2 OF THE DPM 14-Jul-04

LOS ANTEPESADOS ZONE 1

100-YEAR RAINFALL

6-HOUR 24-HOUR 10-DAY

2.20 2.66 3.67

TYPE A TYPE B TYPE C TYPE D

 PEAK DISCHARGE
 1.29
 2.03
 2.87
 4.37

 EXCESS RUNOFF
 0.44
 0.67
 0.99
 1.97

BASIN	A DE A	•									
DASIN	AREA	T\/DE	LAND TRE				RUNOFF	RUNOFF	RUNOFF	RUNOFF	CFS/AC
	00100	TYPE A	TYPE B	TYPE C	TYPE D	FLOW	6-HR	24-HR	10-DAY	10-DAY	
EXISTING	acres					CFS	ac-ft	ac-ft	ac-ft	CF	CFS
	5.558	5.558	0.000	0.000	0.000						
	0.000	5.556	0.000	0.000	0.000	7.17	0.204	0.204	0.204	8877	1.29
TOTAL	5.558					7 47	0.00	0.00			
	0.000					7.17	0.20	0.20	0.20	8877	1.29
DEVELOPED											
110	0.063	0.000	0.011	0.011	0.041	0.23	0.008	0.010	0.013	570	2.70
120	0.135	0.000	0.047	0.047	0.041	0.41	0.003			578 705	3.70
210	0.340	0.000	0.000	0.340	0.000			0.015	0.018	795	3.03
310	2.100	0.000	0.530			0.98	0.028	0.028	0.028	1222	2.87
320	2.370			0.540	1.030	7.13	0.243	0.283	0.369	16091	3.39
		0.000	0.540	0.550	1.280	8.27	0.286	0.335	0.442	19273	3.49
330	0.550	0.000	0.120	0.130	0.300	1.93	0.067	0.078	0.103	4505	3.50
410	0.642	0.000	0.150	0.150	0.342	2.23	0.077	0.090	0.119	5174	3.47
420	0.384	0.000	0.029	0.029	0.326	1.57	0.058	0.070	0.097	4246	4.08
TOTAL	5.558					10.04	0.045	0.740			
	0.000					18.94	0.645	0.748	0.975	42465	
BASINS	E 020										
<i>₽</i> /\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	5.020					17.32	0.596	0.696	0.915	39870	

APPENDIX B HYDRAULIC CALCULATIONS

Los Antepesados, Los Viejos Worksheet for Irregular Channel

Project Description	on
Project File	c:\haestad\fmw\bluewate.fm2
Worksheet	SUBDIVISION STREET
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data				
Channel Slope	. 0.007900 ft/f	t		
Elevation range: 0	.00 ft to 0.53 ft.			
Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	0.53	0.00	4.00	0.013
4.00	0.45	4.00	10.00	0.025
10.00	0.33	10.00	12.00	0.013
10.10	0.00	12.00	36.00	0.017
12.00	0.04	36.00	38.10	0.013
24.00	0.28	38.10	44.00	0.025
36.00	0.04	44.00	48.00	0.013
38.00	0.00			
38.10	0.33			
44.00	0.45			
48.00	0.53			
Discharge	8.27 cfs			

Results			_
Wtd. Mannings Coefficient	0.015		
Water Surface Elevation	0.27	ft	
Flow Area	3.54	ft²	
Wetted Perimeter	27.06	ft	
Top Width	26.66	ft	
Height	0.27	ft	
Critical Depth	0 28	ft	
Critical Slope	0.00614	12 ft/ft	
Velocity	2.34	ft/s	
Velocity Head	0.09	ft	
Specific Energy	0.35	ft	
Froude Number	1.13		
Flow is supercritical.			
Flow is divided.		•	

Los Antepesados, Los Abuelos east of Los Worksheet for Irregular Channel

Project Description	n
Project File	c:\haestad\fmw\bluewate.fm2
Worksheet	SUBDIVISION STREET
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data				
Input Data				
Channel Slope	0.00500	O ft/ft		
Elevation range: 0	.00 ft to 0.53 ft.			
Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	. 0.53	0.00	4.00	0.013
4.00	0.45	4.00	10.00	0.025
10.00	0.33	10.00	12.00	0.013
10.10	0.00	12.00	36.00	0.017
12.00	0.04	36.00	38.10	0.013
24.00	0.28	38.10	44.00	0.025
36.00	0.04	44.00	48.00	0.013
38.00	0.00			
38.10	0.33	•		
44.00	0.45			
48.00	0.53			
Discharge	7.13	cfs		

Results		
Wtd. Mannings Coefficient	0.015	
Water Surface Elevation	0.27	ft
Flow Area	3.77	ft²
Wetted Perimeter	27.94	ft
Top Width	27.53	ft
Height	0.27	ft
Critical Depth	0.26	ft
Critical Slope	0.00615	59 ft/ft
Velocity	1.89	ft/s
Velocity Head	0.06	ft
Specific Energy	0.33	ft
Froude Number	0.90	
Flow is subcritical.		
Flow is divided.		

Los Antepesados, Los Abuelos west Worksheet for Irregular Channel

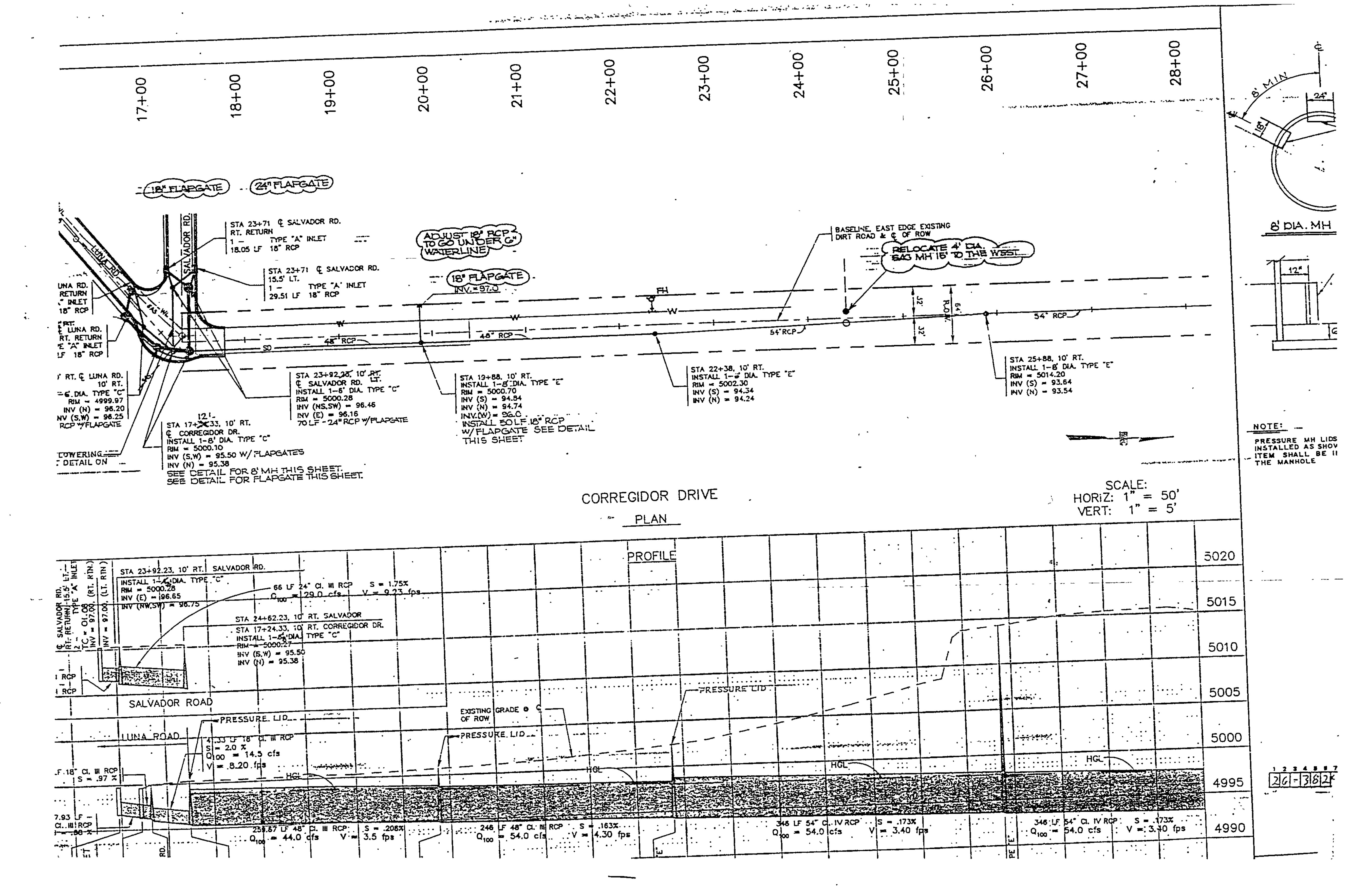
Project Description	η
Project File	c:\haestad\fmw\bluewate.fm2
Worksheet	SUBDIVISION STREET
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

		<u> </u>		
Input Data				
Channel Slope	0.005000	O ft/ft		
Elevation range: 0	.00 ft to 0.53 ft.			
Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	0.53	0.00	4.00	0.013
4.00	0.45	4.00	10.00	0.025
10.00	0.33	10.00	12.00	0.013
10.10	0.00	12.00	36.00	0 017
12.00	0.04	36.00	38.10	0.013
24.00	0.28	38.10	44.00	0.025
36.00	0.04	44.00	48.00	0.013
38.00	0.00			
38.10	0.33			
44.00	0.45			
48.00	0.53			
Discharge	17.32	cfs		

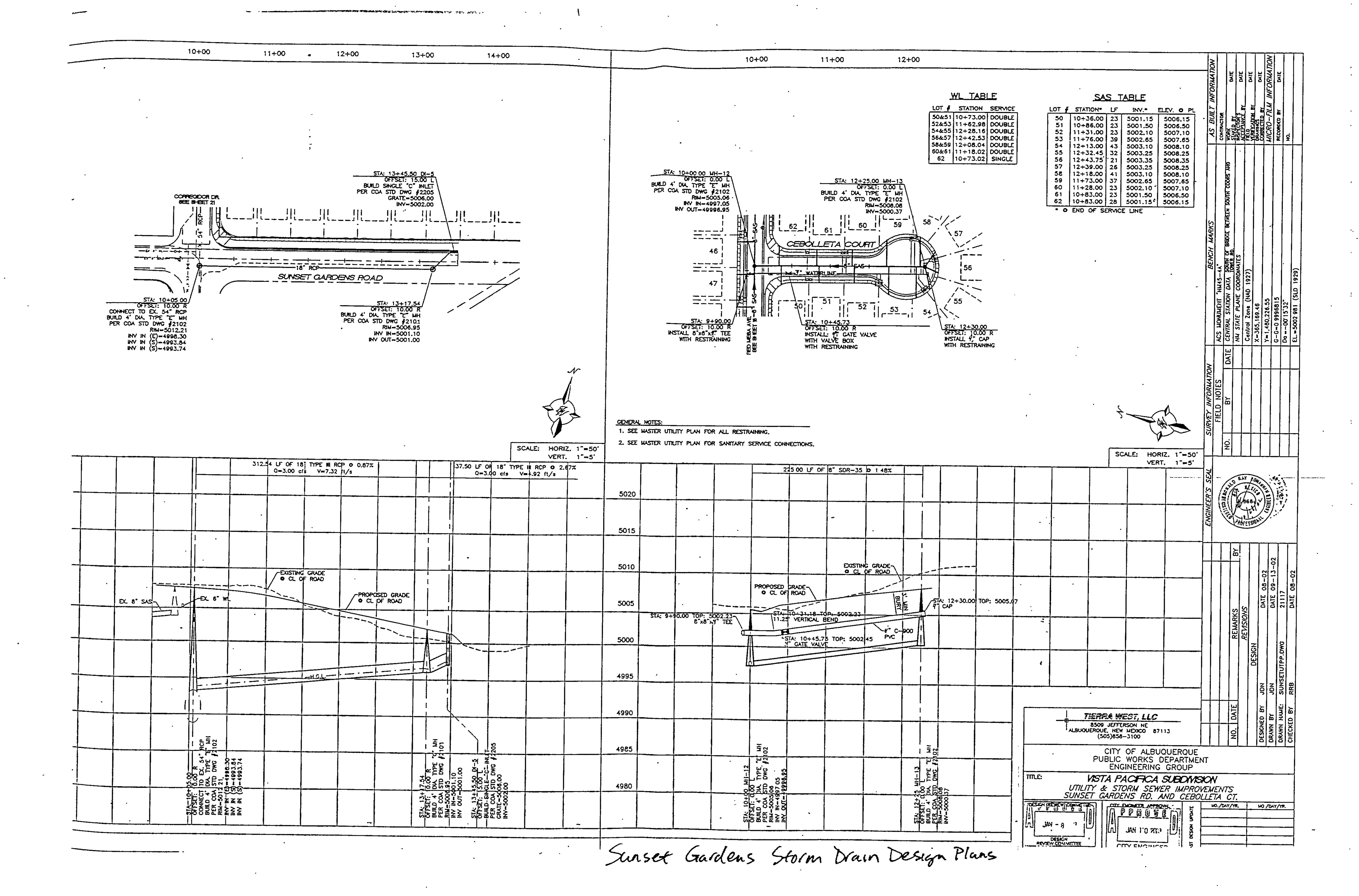
Results		
Wtd. Mannings Coefficient	0.014	
Water Surface Elevation	0.38	ft
Flow Area	6.84	ft ²
Wetted Perimeter	33.53	ft
Top Width	33.03	ft
Height	0.38	ft
Critical Depth	0.38	ft
Critical Slope	0.00523	8 ft/ft
Velocity	2.53	ft/s
Velocity Head	0.10	ft
Specific Energy	0.48	ft
Froude Number	0.98	•
Flow is subcritical.		

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Corregidor As-built Storm Drain





City of Albuquerque

ALBUQUERQUE, NEW MEXICO 87103 P.O. BOX 1293

May 27, 2004

Dave Thompson, PE Thompson Engineering Consultants, Inc. 4800-C Juan Tabo NE Albuquerque, NM 87111

Los Antepesados Subdivision Drainage Report Re: Engineer's Stamp dated 3-23-04, (K11/D58)

Dear Mr. Thompson,

Based on information contained in your submittal dated 3-24-04, the above referenced report cannot be approved for Preliminary Plat until the following comments are addressed.

- Your project should also include a discussion of Corregidor and Sunset Gardens in your report. I see a valley gutter at that intersection that indicates some offsite street flows could impact your inlet at the Sunset Gardens terminus. What happens in Corregidor south of your project?
- The plan should show existing grades at least 25 feet beyond the property line. It is difficult to determine how your project relates to the properties on the other side of the streets and the ones on the south. It would be prudent to include the profile for Sunset Garden in your submittal.
- The lots abutting the cemetery appear to drain to the cemetery. Please revise your retaining wall elevations to prevent this.

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

Sincerely, Brads J. B. Mun

Bradley L. Bingham, PE

Principal Engineer, Planning Dept.

Development and Building Services

file

K-11/D58

DRAINAGE INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: LOS ANTEPESADOS SUBDIVISION DRB #:EPC #:W	ZONE MAP/DRG. FILE #: K11 ORK ORDER#:
LEGAL DESCRIPTION: LOT 1-B OF THE TOWN OF ATRISCO GRANCITY ADDRESS:	
ENGINEERING FIRM: Thompson Engineering Consultants, Inc. ADDRESS: 4800 Juan Tabo NE, Suite C CITY, STATE: Albuquerque, NM	CONTACT: <u>David Thompson</u> PHONE: <u>271-2199</u> ZIP CODE: <u>87111</u>
OWNER: Interfirst Properties, Inc. ADDRESS: 12809 Donette Ct. NE CITY, STATE: Albuquerque, NM	CONTACT: Phillip Lindborg PHONE: 291-0353 ZIP CODE: 87112
ARCHITECT: ADDRESS: CITY, STATE:	CONTACT:PHONE:ZIP CODE:
SURVEYOR: Wayjohn Surveying, Inc. ADDRESS: 330 Louisiana Blvd. NE CITY, STATE: Albuquerque, NM	CONTACT: Thomas Johnston PHONE: 255-2052 ZIP CODE: 87108
CONTRACTOR: . ADDRESS:	CONTACT:PHONE:ZIP CODE:
CHECK TYPE OF SUBMITTAL: XX 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) ENGINEER'S CERTIFICATION(TCL) ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN) OTHER	CHECK TYPE OF APPROVAL SOUGHT: SIA/FINANCIAL GUARANTEE RELEASE XX 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.) XX GRADING PERMIT APPROVAL PAVING PERMIT APPROVAL WORK ORDER APPROVAL OTHER (SPECIFY)
WAS A PRE-DESIGN CONFERENCE ATTENDED: YES XX NO COPY PROVIDED	D 国 G 国 D 国 D MAR 2 4 2004
DATE SUBMITTED: March 23, 2004 By: Days for annexed a f Site Days In great Plane and I we find it is in the Plane.	HYBROLOGY SECTION

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

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

DRAINAGE REPORT FOR LOS ANTEPESADOS SUBDIVISION



PRAINAGE REPORT FOR LOS ANTEPESADOS SUBDIVISION

Prepared for: INTERFIRST PROPERTIES, INC.

Prepared by:
Thompson Engineering Consultants, Inc.
4800 Juan Tabo N.E., Suite C
Albuquerque, NM 87111

March 2004

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INTRODUCTION AND SITE LOCATION

The proposed Los Antepesados Subdivision is located on the east side of Corregidor Street between Sunset Gardens Road and Salvador Road. The 5.56-acre site lies just south of Vista Pacifica Subdivision. Adjacent to the property to the northeast is a cemetery. The property will be subdivided into 42 residential lots. This report specifically addresses the grading and drainage plan and analysis for Trementina Oeste.

METHODOLOGY

The hydrologic and hydraulic criteria in Section 22 of the City of Albuquerque Development Process Manual (DPM), entitled "Drainage, Flood Control, and Erosion Control," was followed to perform the analyses given in this report. The design storm used for both the existing undeveloped and developed conditions of the Puscany West Unit 5 Subdivision is the 100-year, 6-hour storm event for peak flow computations.

Street capacities were modeled using Haested Flowmaster program to determine normal depths and conjugate depths. A hydraulic analysis of the storm sewer collection system was performed to assist in the sizing of the infrastructure.

EXISTING DRAINAGE CONDITIONS

INTRODUCTION

The site drains from northwest to southeast at an average slope of about 1%. The site is sparsely vegetated with native grasses and scrub brush. There is an existing 54" storm drain in Corregidor that drains north to the Gonzales pond. The peak flow from the site is 7.2 cfs.

The FEMA Flood Insurance Rate Map Number 35001C0329E, effective date November 19, 2003, shown in Figure 1, indicates the presence of a Zone X flood hazard zone on the site. Zone X is an area in the 500-year flood or areas less than 1 foot deep 100-year flood. This Zone X is a remnant from the Zone AE that was previously on the site, but was removed by the City after the Gonzales Pond was constructed.

OFF-SITE FLOWS

There are no offsite flows that reach the site.

ON-SITE FLOWS

For the existing conditions hydrologic analysis, Land Treatment Type A was used to determine peak flows. The peak flow from the site is 7.2 cfs. The majority of the site runoff ponds on-site in natural depressions. A portion of the site drains southeast down the escarpment.

Table 1 Existing Drainage Conditions

BASINS	Area (acres)	100yr-6hr Peak Flow (cfs)	100yr-6hr Runoff Volume	100yr-10 day Runoff Volume (acre-ft)	Land Treatment
SITE	5.56	7.2	0.204		
		, , , , ,	0.204	0.204	100%A

DEVELOPED DRAINAGE CONDITIONS

DRAINAGE BASIN DELINEATION

Plate 1 shows that the site is divided into six drainage basins. Basins 110 and 120 are on Lot 42 of the subdivision. Basin 110 includes the access easement to the cemetery. Because Basin 110 is below the elevation of Sunset Gardens Road, the basin drains to a pond located east of the asphalt drive that accesses the cemetery. Basin 120, which includes the house pad on Lot 42 drains to Sunset Gardens and is collected by a storm inlet that connects to a 24" storm drain. Basin 210 is located on the southeast side of the subdivision. Basin 210 follows historic flow patterns and drains to the southeast down the escarpment. Basin 210 does not include any impervious area and therefore runoff does not increase from existing conditions to developed conditions. Basins 310, 320, and 330 all drain to the southwest portion of the subdivision through Los Viejos and Los Abuelos. The runoff from these basins is collected in storm inlets, which ties into a 24" storm drain that drains into a 48" storm drain in Corregidor Place. The 48" storm drain turns into a 54" storm drain that drains to the Gonzales Pond located north of the subdivision at the intersection of Corregidor Place and Gonzales Road. A total of 17.32 cfs is collected by storm inlets in Los Abuelos and discharged through the 24" storm drain to the 48" storm drain in Corregidor.

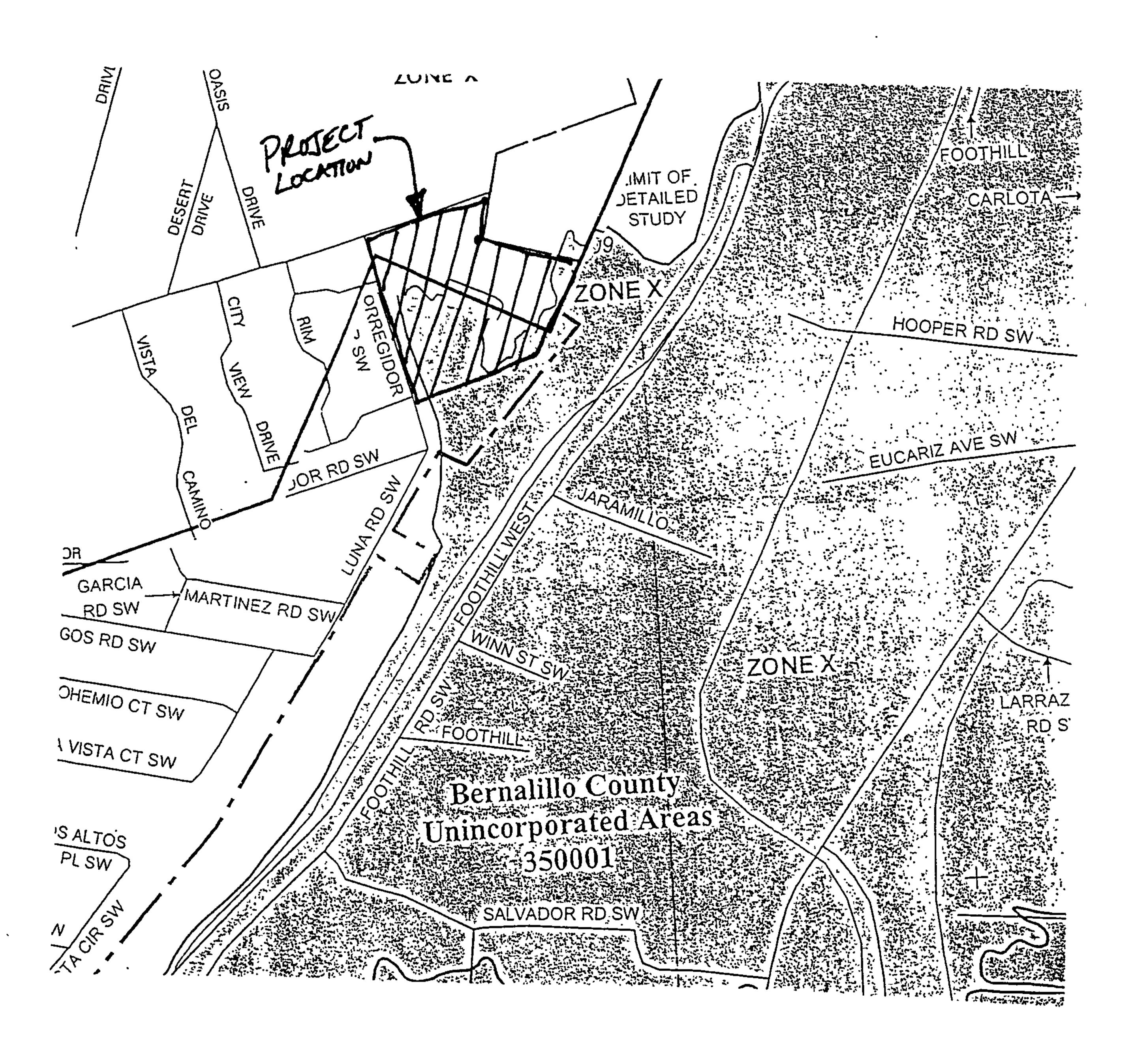


Figure 1 FEMA Flood Insurance Rate Map

HYDROLOGIC ANALYSIS

To determine the peak flows of each basin a hydrologic analysis was performed in accordance to section 22.2 of the Development Process Manual (DPM). The 100-year 6hour storm was the basis for determining peak flows to size the storm sewer inlets (see Appendix A). The 10-year 6-hour storm was the basis for determining peak flows to calculate the hydraulic grad line in the proposed storm sewer extension (see Appendix A). The property is located in Zone 1, which has a 100-year 6-hour storm event of 2.20 inches.

The site was assigned land treatment values in accordance with Tables A-4 and A-5 of the DPM's section 22.2. Table 1 shows the Land Treatments and peak flows for each basin. See Appendix A for hydrologic calculations.

BASIN 100yr-🖎 100yr-6hr 🗧 100-yr 10day Land Treatment 6hr Peak (acres) Runoff Runoff Volume E. Flow La Volume (acre-ft) (cfs) (acre-ft) 110 0.063 0.23 0.008 0.013 17.5% B, 17.5% C, 65% D 120 0.135 0.41 0.013 0.018

0.028

0.243

0.286

0.067

Table 2 Developed Drainage Conditions

0.028

0.369

0.442

0.103

35% B, 35% C, 30% D

25% B, 26% C, 49% D

23% B, 23% C, 54% D

22% B, 23% C, 55% D

100% C

DRAINAGE CONCEPT

0.340

2.100

2.370

0.550

0.98

7.13

8.27

1.93

Introduction

210

310

320

330

This drainage report addresses the drainage concept for the developed condition of the Los Antepesados subdivision. The majority of the subdivision (basins 310, 320, & 330) drains to the southwest part of the property where the runoff is collected by two type double C storm inlets in a sump condition. The storm inlets are connected to a 24" storm drain that connects to an existing 48" storm drain in Corregidor Place. The 48" storm drain in Corregidor drains north to the Gonzales Pond located at Gonzales Road. The Gonzales Pond was sized to hold the developed flows from this site. Provide was

Basins 110 and 120 are on Lot 42 of the subdivision. Basin 110 includes the access easement to the cemetery. Because Basin 110 is below the elevation of Sunset Gardens Road, the basin drains to a pond located east of the asphalt drive that accesses the cemetery. Basin 120, which includes the house pad on Lot 42 drains to Sunset Gardens and is collected by a storm inlet that connects to a 24" storm drain. Basin 210 is located on the southeast side of the subdivision. Basin 210 follows historic flow patterns and drains to the southeast down the escarpment. Basin 210 does not include any impervious area and therefore runoff does not increase from existing conditions to developed conditions.

Street Hydraulic Analysis

A hydraulic analysis of the street flows was completed to determine normal depth and sequent depth of the flow (see Appendix B). The sequent depth must remain within the street right-of-way. Therefore, the sequent depth must be equal to or less than 0.51 feet or 0.85 feet, for the streets that have 4" mountable curb and gutter or standard curb and gutter, respectively. A normal depth analysis using Haested Methods Flowmaster program was completed. Flowmaster automatically calculates the energy grade depth, which is always greater than the sequent depth. Therefore, if the energy grade depth is equal to or less than 0.51 feet for a street section with mountable curb and gutter, then the sequent depth is also less than 0.51 feet. Los Viejos and Los Abuelos energy grade lines are less than 0.51 feet, therefore the flows all stay in the street right-of-way. Table 2 shows the results of the analysis including the energy grade depth.

Table 3 Street Hydraulic Analysis

Street	Widt h (ft)	Slope (%)	Contributin g Basins	Flow (cfs)	a the same of the	Energy Grade
Los Viejos	26	0.79	310	8.27		Depth (ft)
Los Abuelos	28	0.50	320		0.27	0.35
east of Los Viejos		0.50	320	7.13	0.27	0.33
Los Abuelos west of Los Viejos	28	0.50	310, 320,330	17.32	0.38	0.48

Storm Sewer Hydraulics Analysis

Once the hydrologic analysis was completed, a hydraulics analysis was performed to size the proposed storm sewer pipe. The storm sewer hydraulic grade line of the 48" & 54" storm drain in Corregidor was used as a starting point. Also, storm inlets in a sump condition were sized. The hydraulics analysis is shown in Appendix B.

Grading Plan

Plate 1 shows the Mass Grading Plan for the subdivision. The grading plan shows that the subdivision will drain from north to south and into the proposed storm drain in Corregidor Place. There are no retaining walls required for the subdivision.

APPENDIX A HYDROLOGIC CALCULATIONS

HYDROLOGIC CALCULATIONS SECTION 22.2 OF THE DPM 11-Mar-04

LOS ANTEPESADOS ZONE 1

100-YEAR RAINFALL

6-HOUR 24-HOUR 10-DAY

2.20 2.66 3.67

PEAK DISCHARGE

TYPE A TYPE B TYPE C TYPE D

1.29 2.03 2.87 4.37 **EXCESS RUNOFF** 0.44 0.67 0.99 1.97

BASIN	AREA	TYPE A	LAND TRE	ATMENT TYPE C	TYPE D	PEAK FLOW CFS	RUNOFF 6-HR ac-ft	RUNOFF 24-HR ac-ft	RUNOFF 10-DAY ac-ft	RUNOFF 10-DAY CF	CFS/AC CFS
TOTAL	5.558 5.558	5.558	0.000	0.000	0.000	7.17	0.204	0.204	0.204	8877	1.29
DEVELOPED	0.000					7.17	0.20	0.20	0.20	8877	1.29
110 120 210 310 320 330 TOTAL	0.063 0.135 0.340 2.100 2.370 0.550 5.558	0.000 0.000 0.000 0.000	0.011 0.047 0.000 0.530 0.540 0.120	0.011 0.047 0.340 0.540 0.550 0.130	0.041 0.000 1.030 1.280 0.300	0.23 0.41 0.98 7.13 8.27 1.93	0.008 0.013 0.028 0.243 0.286 0.067	0.010 0.015 0.028 0.283 0.335 0.078	0.013 0.018 0.028 0.369 0.442 0.103	578 795 1222 16091 19273 4505	3.70 3.03 2.87 3.39 3.49 3.50
BASINS	5.020			•		17.32	0.596	0.696	0.915	39870	

APPENDIX B HYDRAULIC CALCULATIONS

Los Antepesados, Los Viejos Worksheet for Irregular Channel

Project Description	on
Project File	c:\haestad\fmw\bluewate.fm2
Worksheet	SUBDIVISION STREET
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		<u> </u>			
Channel Slope	0.00790	00 ft/ft			
Elevation range: 0					
Station (ft)	Elevation (ft)		Start Station	End Station	Roughness
0.00	0.53		0.00	4.00	0.013
4.00	0.45		4.00	10.00	0.015
10.00	0.33		10 00	12.00	0.023
10.10	0.00		12.00	36.00	0.013
12.00	0.04		36.00	38.10	
24.00	0.28		38.10	44.00	0.013
36.00	0.04		44.00	48.00	0.025
38.00	0.00			40.00	0.013
38.10	0.33				
44.00	0.45				
48.00	0.53		•		
Discharge	8.27	cfs			

Results			
Wtd. Mannings Coefficient	0.015		
Water Surface Elevation	0.27	ft	
Flow Area	3.54	ft²	
Wetted Perimeter	27.06	ft	
Top Width	26.66	ft	
Height	0.27	ft	
Critical Depth	0.28	ft	
Critical Slope	0.00614	42 ft/ft	
Velocity	2.34	ft/s	
Velocity Head	0.09	ft	
Specific Energy	0.35	ft	
Froude Number	1.13	- -	
Flow is supercritical.			
Flow is divided.			

Los Antepesados, Los Abuelos east of Los Worksheet for Irregular Channel

Project Descriptio	η
Project File	c:\haestad\fmw\bluewate.fm2
Worksheet	SUBDIVISION STREET
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

					
Input Data					
Channel Slope	0.0050	000 ft/ft			
Elevation range: 0	.00 ft to 0.53 ft.				
Station (ft)	Elevation (ft)		Start Station	End Station	Roughness
0.00	0.53		0.00	4.00	0.013
4.00	0.45		4.00	10.00	0.013
10.00	0.33		10.00	12.00	. 0.023
10.10	0.00		12.00	36.00	
12.00	0.04		36.00	38.10	0.017
24.00	0.28		38.10	44.00	0.013
36.00	0.04		44.00	48.00	0.025
38.00	0.00			70.00	0.013
38.10	0.33				
44.00	0.45				
48.00	0.53				
Discharge	7.13	cfs			

Results			
Wtd. Mannings Coefficient	0.015	· - · - · - · · - · · · · · · · · · · ·	
Water Surface Elevation	0.27	ft	
Flow Area	3.77	ft²	
Wetted Perimeter	27.94	ft	
Top Width	27.53	ft	
Height	0.27	ft	
Critical Depth	0.26	ft	
Critical Slope	0.0061	59 ft/ft	
Velocity	1.89	ft/s	
Velocity Head	0.06	ft	
Specific Energy	0.33	ft	
Froude Number	0.90		
Flow is subcritical.			
Flow is divided.			

Los Antepesados, Los Abuelos west Worksheet for Irregular Channel

Project Description	วท
Project File	c:\haestad\fmw\bluewate.fm2
Worksheet	SUBDIVISION STREET
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data				
Channel Slope	0.005000 f	t/ft		
Elevation range: 0	.00 ft to 0.53 ft.			
Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	0.53	0.00	4.00	0.013
4.00	0.45	4.00	10.00	0.075
10.00	0.33	10.00	12.00	0.013
10.10	0.00	12.00	36.00	0.017
12.00	0.04	36.00	38.10	0.013
24.00	0.28	38.10	44.00	0.025
36.00	0.04	44.00	48.00	0.023
38.00	0.00			0.013
38.10	0.33			
44.00	0.45			
48.00	0.53			
Discharge	17.32 cf	·s		

Results		
Wtd. Mannings Coefficient	0.014	•
Water Surface Elevation	0.38	ft
Flow Area	6.84	ft²
Wetted Perimeter	33.53	ft
Top Width	33.03	ft
Height	0.38	ft
Critical Depth	0.38	ft
Critical Slope	0.0052	38 ft/ft
Velocity	2.53	ft/s
Velocity Head	0.10	ft
Specific Energy	0.48	ft
Froude Number	0.98	•
Flow is subcritical.		

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PROJECT TITL	E: MESA PARK	ZONE ATLAS/DRNG	. FILE #: <u>K-//</u>	1-05
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	PTION: TOWN OF ATRISCO 6			
CITY ADDRESS	· NA			
ENGINEERING	FIRM: PROTEC Consultir	CONTACT:	Ray Mac	<u> </u>
ADDRESS	: P.O. Box 21007 8	7/25 PHONE:	833017	7
OWNER:	Shakeel Rizvi	CONTACT:	Shatee/	Rizvi
ADDRESS	: DO49 LUETLA ANNE,	ME PHONE:	857-0467	<u> </u>
ARCHITECT:		CONTACT:		<u> </u>
ADDRESS		PHONE:		
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DATE SHEMIT	TED. 12/5/97			



Consulting

Professional Technologies and Design Development Services

December 5, 1997

Mr. Bernie J. Montoya
Engineering Associate
City of Albuquerque
Public Works Department
Hydrology Division
P.O. Box 1293
Albuquerque, NM 87103

Re: Mesa Park Conceptual Grading and Drainage Plan

Dear Mr. Montoya:

Please find enclosed a copy of the referenced conceptual grading and drainage plan for your review.

Although not reflected on the latest Flood Information Rate Map, the recently constructed Gonzales Pond intercepts potential flood water which would otherwise concentrate near the intersection of Gonzales Road and Corregidor before draining across Sunset Gardens Road at the north edge of the proposed site. With the Pond in place, only land at the east edge of Corregidor between the proposed site and Gonzales Road has the potential to drain into Sunset Gardens at the north edge of the site. When this property is developed, it may be necessary to construct a storm drain in Sunset Gardens Road to collect runoff from the developed property and drain it into the existing storm drain in Corregidor. Since the proposed Mesa Park project does not drain into Sunset Gardens Road, and since the Gonzales Pond prevents most offsite runoff from reaching Sunset Gardens Road, we do not believe construction of a storm drain in Sunset Gardens east of Corregidor is warranted at this time. Mesa Park will bond for half of the street improvements in Sunset Gardens. This will postpone construction of pavement on Sunset Gardens until the adjacent property to the north is developed, and consequently prevent increased runoff from pavement in Sunset Gardens until there is a storm drain in place to collect it.

If you have any questions regarding the information provided here, please contact me at (505) 833-0177.

Sincerely,

PROTEC Consulting

Raymond W. Macy, PAE.

Owner

Enclosure

xc: Mr. Adil Rizvi

DEC 0 5 1997

HYDROLOGY SECTION



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

December 5,1997

Ray Macy
PROTEC Consulting
P.O. Box 27007
Albuquerque, New Mexico 87125

RE: CONCEPTUAL DRAINAGE PLAN FOR MESA PARK MOBILE HOME PARK (K11-D58) ENGINEER'S STAMP DATED 12/5/97

Dear Mr. Macy:

Based on the information provided on your December 5,1997 submittal, the above referenced site is approved for Site Development plan for Building Permit.

Please be advised that prior to Work Order release, an approved drainage plan addressing other issues pertaining to the Flood Hazard located at the Northeast corner of the site will be required.

If I can be of further assistance, please feel free to contact me at 924-3986.

C: Andrew Garcia

Shakeel Rizvi

Sincerely

Bernie J. Montoya CE
Associate Engineer