[redacted]

AVID ENGINEERING, INC.

H9/D1E

DRAINAGE REPORT UPDATE
FOR
LAS LOMITAS SUBDIVISION
UNIT IIB

PREPARED FOR:

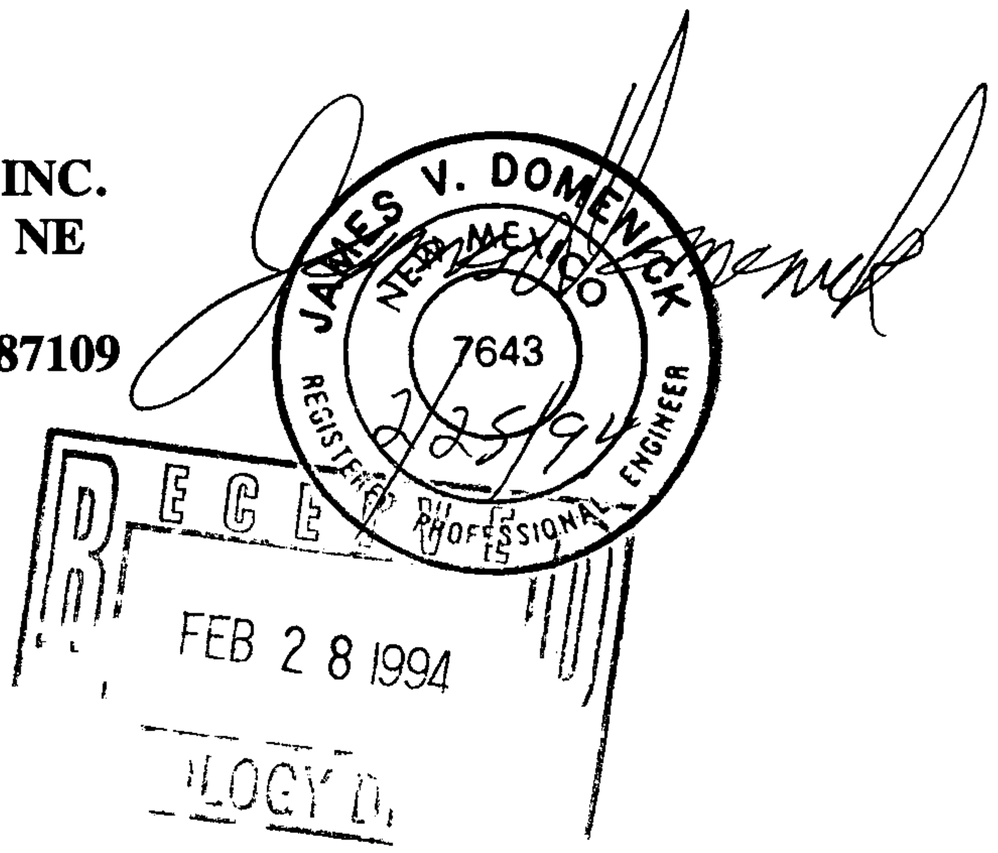
THE PRESLEY COMPANY

ALBUQUERQUE, NM 87111

PREPARED BY:

AVID ENGINEERING, INC.
6100 SEAGULL LANE NE
SUITE 102
ALBUQUERQUE, NM 87109

FEBRUARY 1994



DRAINAGE INFORMATION SHEET

PROJECT TITLE: Las Lomitas ZONE ATLAS/DRAINAGE FILE# H-9

LEGAL DESCRIPTION: Unit IIB - Las Lomitas Subdivision

CITY ADDRESS: S.W. Corner of Unser & 98th Street

ENGINEERING FIRM: AVID Engineering, Inc. CONTACT: James V. Domenick

ADDRESS: 6100 Seagull Ln., NE, Suite 102, 87109 PHONE: 881-5357

OWNER: Presley Corp. CONTACT: Charles Caldwell

ADDRESS: 1909 Carlisle NE, Alb., NM 87110 PHONE: (602)820-8245

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Aldrich Surveying CONTACT: Tim Aldrich

ADDRESS: P.O. Box 30701, Alb., NM 87190 PHONE: 884-1990

CONTRACTOR: None CONTACT: _____

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

____X YES DRB NO. 92-0207

____ NO EPC NO. _____

____ COPY OF CONFERENCE RECAP SHEET PROVIDED PROJECT NO. _____

TYPE OF SUBMITTAL:

____X DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAIN PLAN

GRADING PLAN

____ EROSION CONTROL PLAN

____ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

____ SECTOR PLAN APPROVAL

____ SKETCH PLAT APPROVAL

____ PRELIMINARY PLAT APPROVAL

SITE DEVELOPMENT PLAN APPROVAL

____ FINAL PLAT APPROVAL

____ BUILDING PERMIT APPROVAL

____ FOUNDATION PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY APPROVAL

____ ROUGH GRADING PERMIT APPROVAL

____ GRADING/PAVING PERMIT APPROVAL

__X__ X OTHER _____ (SPECIFY)
Revised Infrastructure List

DATE SUBMITTED: February 25, 1994

BY: James Domenick

REV. 10/85

TABLE OF CONTENTS

	PAGE
INTRODUCTION AND PROJECT DESCRIPTION	1
PURPOSE AND SCOPE	1
SITE LOCATION AND DESCRIPTION	1
EXISTING DRAINAGE CONDITIONS	1
DESCRIPTION OF PROPOSED CHANGES	4
RECOMMENDATIONS	12
REFERENCES	
APPENDIX A - COMPUTATIONS	
APPENDIX B - SAMPLE EASEMENT AGREEMENT	
APPENDIX C - COST ESTIMATE	
APPENDIX D - PROPOSED INFRASTRUCTURE LIST	

LIST OF FIGURES AND EXHIBITS

FIGURE I	VICINITY MAP
FIGURE II	SUBDIVISION PHASING PLAN
FIGURE III	LOT AND ROAD LAYOUT OF UNIT IIB
FIGURE IV	SKETCH PLAN AND PROFILE OF CALLE ENTRADA WITH PROPOSED IMPROVEMENTS
FIGURE V	CONCEPTUAL DESIGN OF CONNECTION TO POND OUTLET
FIGURE VI	UNIT IIB PLAT SHOWING LOTS EXCLUDED FROM CONSTRUCTION
TABLE I	DEVELOPED FLOWS AT ANALYSIS POINTS
TABLE II	STREET CAPACITIES, FLOWS AND DEPTHS
EXHIBIT I	ORIGINAL DRAINAGE PLAN AND BASIN MAP

INTRODUCTION AND PROJECT DESCRIPTION

This report is an update to the drainage report for Las Lomitas subdivision. Las Lomitas is a residential development of approximately 54 acres, which has its first two phases of construction completed. The remainder of the project will be developed in one additional phase. The development is on Albuquerque's, West Mesa as shown on Figure I (Vicinity Map). It will consist of approximately 244 single family (R-1) lots when fully developed.

Figure II shows the phasing plan for the subdivision. This report addresses Unit IIB.

PURPOSE AND SCOPE

The purpose of this Drainage Report Update is to describe proposed revisions to the previously approved drainage plan for the subdivision. The approved drainage report was prepared by Brasher Engineering, and was called by the previous name of the subdivision: "Drainage Report for La Merced de Atrisco". This report was supplemented by the Las Lomitas Drainage Report Update prepared by AVID Engineering in July 1992. That report described changes due to the developers desire to stage development of the project from two phases to three phases of construction. The first plan considered interim measures based on two phases only. The report was approved and the first two phases of the project are complete. Unit IIB is the third and final phase of the development.

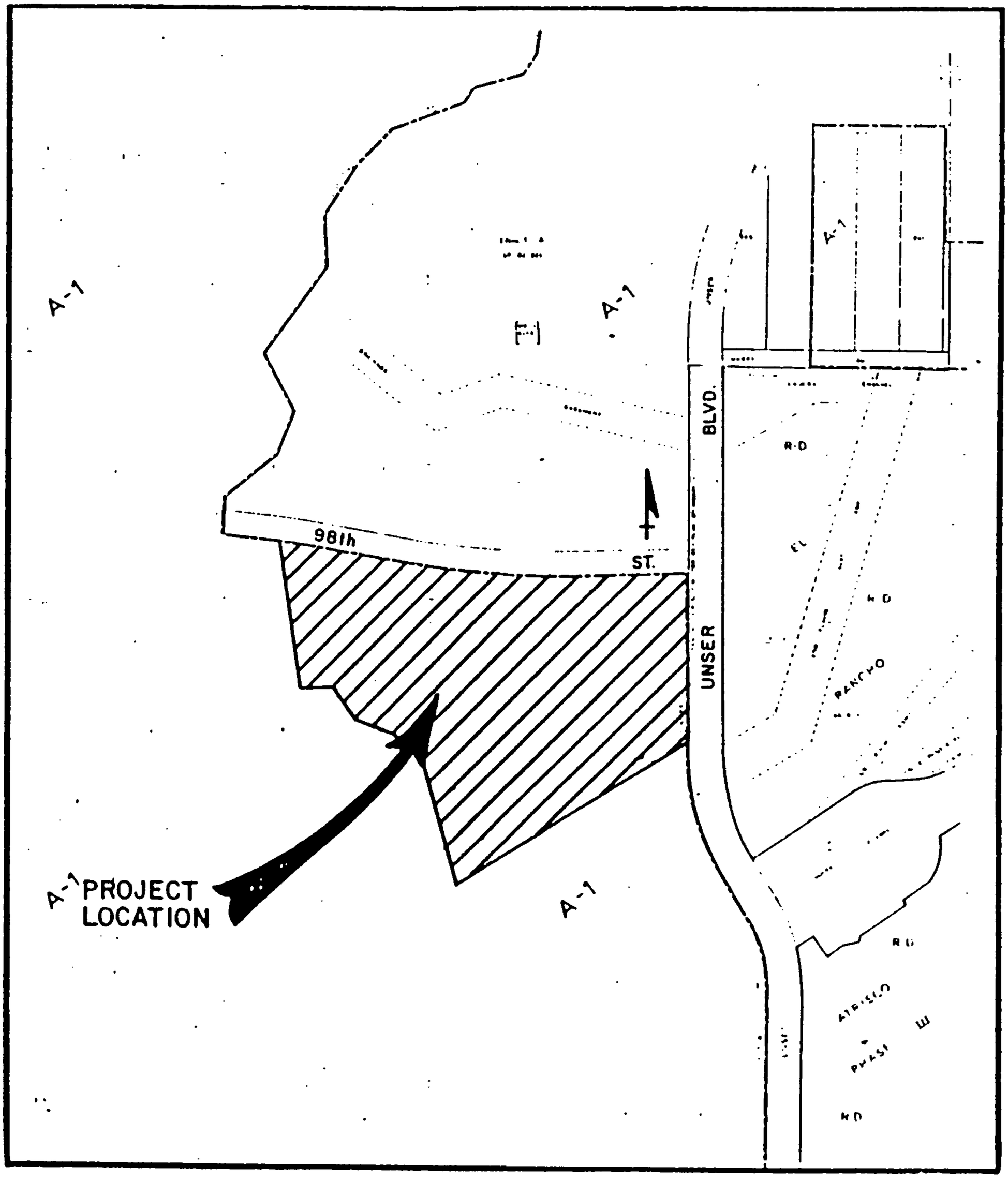
This report describes changes to the overall plan required by natural occurrences in the adjacent arroyo and also changes due to regulatory changes since the time of the original approval.

SITE LOCATION AND DESCRIPTION

Las Lomitas is located at the southwest corner of 98th Street and Unser Boulevard on Albuquerque's West Mesa (Zone Atlas Sheet H-9). It is bounded on the west by undeveloped land owned by Westland Corporation, and on the south by vacant land and by the Ladera Drainage System. For a complete description of the site, please refer to the approved drainage report for Las Lomitas subdivision.

EXISTING DRAINAGE CONDITIONS

As stated earlier, Units I and IIA have been completed and accepted by the City. They were constructed in accordance with the approved grading and drainage plans. The berm and embankment along the west side of Unit IIA has been constructed according to the plan and seems to be functioning well in its capacity as protection from upstream drainage. Exhibit I in the back of this report shows the facilities approved in the original drainage plan for the subdivision.

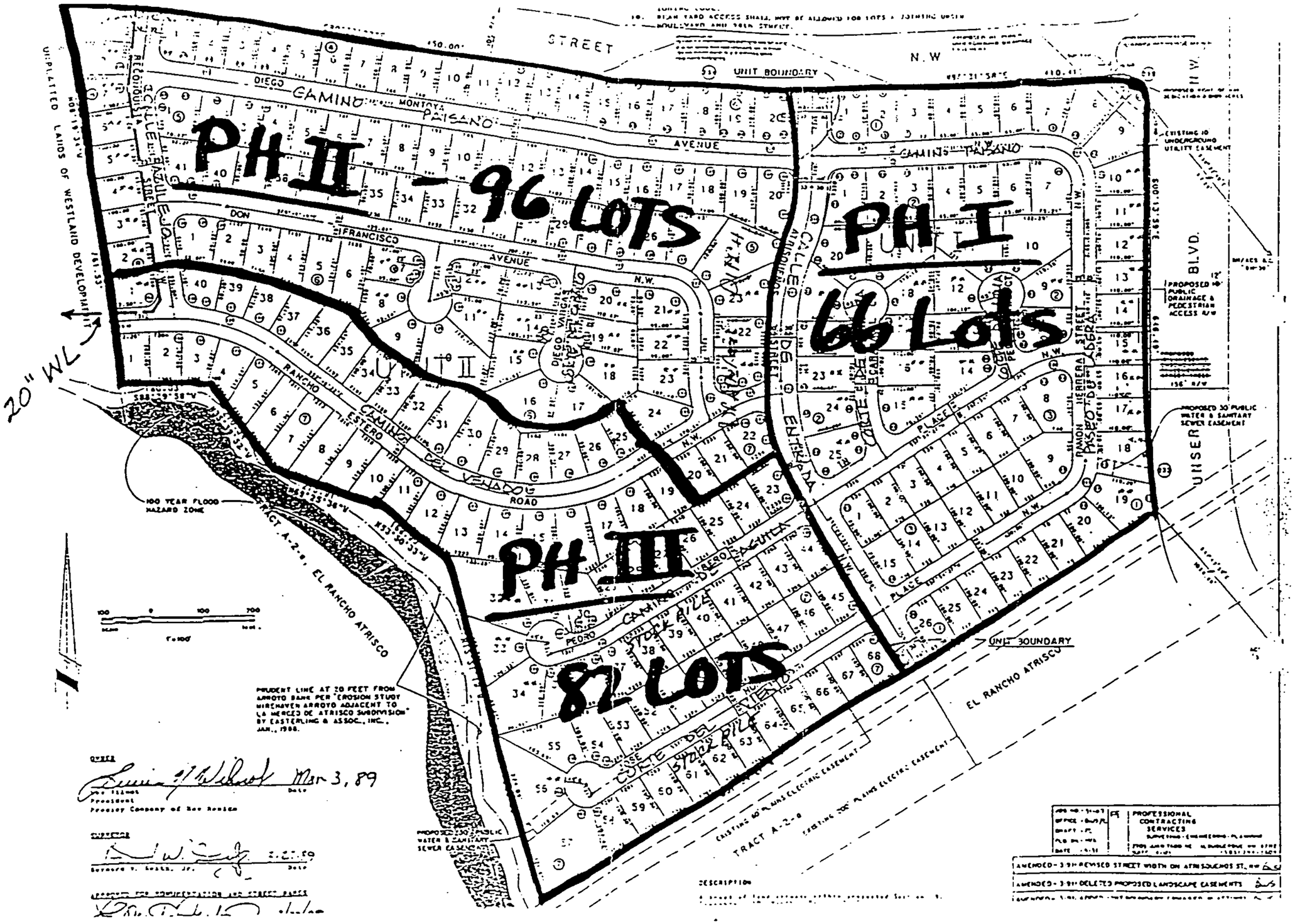


VICINITY MAP

SCALE : 1" = 800'

H-9

Figure 1



PHASING PLAN

FIGURE II

The area encompassed by proposed Unit IIB is currently undeveloped. It is located as shown (as Phase III) on the phasing plan included as Figure II. The street and lot layout of Unit IIB is shown in Figure III. The area drains to the pond constructed during Unit I, in accordance with the approved plan.

The Mirehaven Arroyo tributary, located adjacent to and immediately southwest of Unit IIB, has migrated to the north, and the arroyo bank is adjacent to the property line. The area is outside the prudent line established by an earlier engineering study, and this condition makes it clear that some improvements will be required to allow development and occupancy of the lots immediately adjacent to the arroyo.

All other existing drainage conditions are described in the approved drainage plans for Las Lomitas.

DESCRIPTION OF PROPOSED CHANGES TO THE APPROVED DRAINAGE PLAN

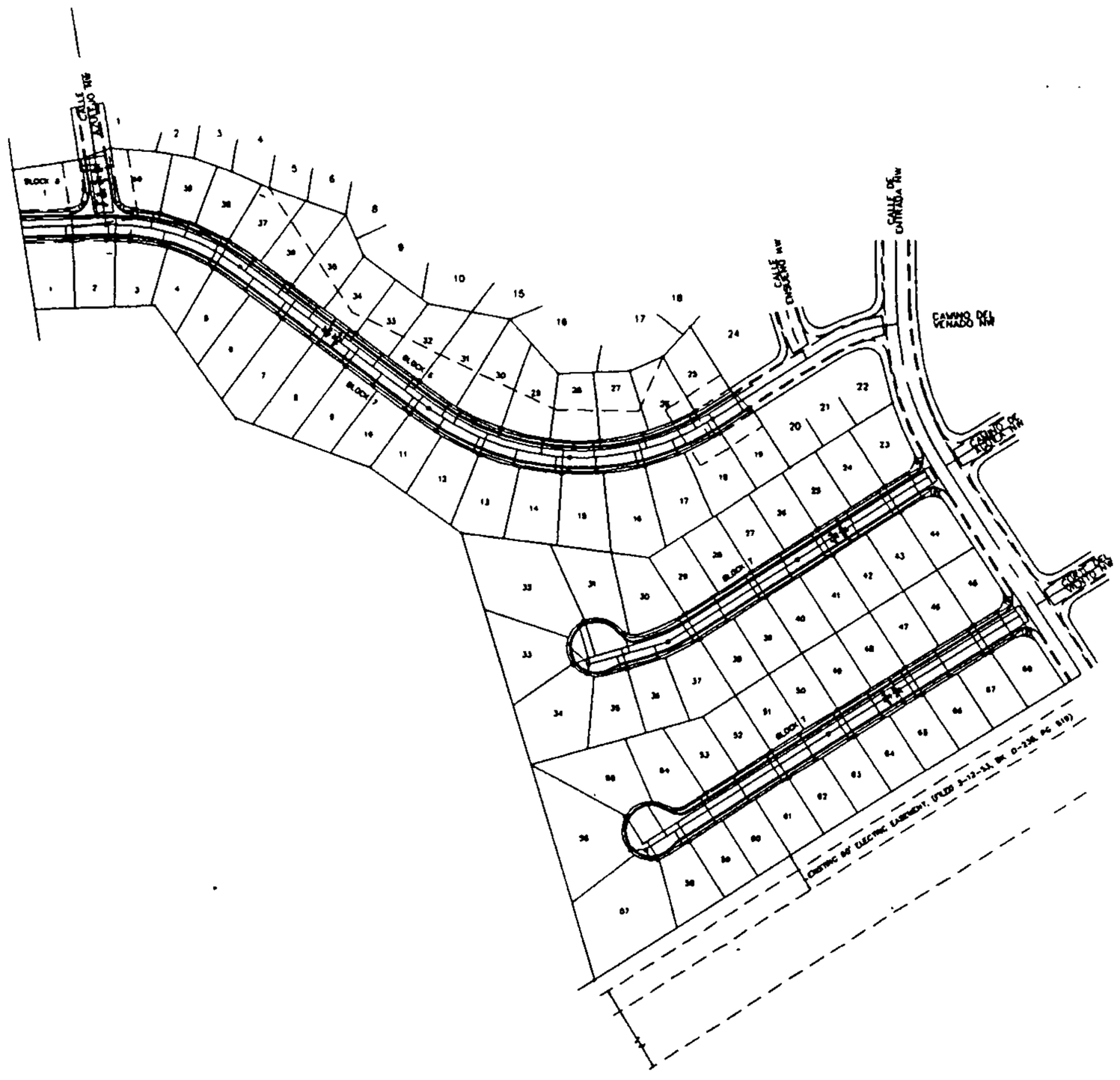
DRAINAGE WITHIN THE SUBDIVISION

Figure III shows the proposed third phase of the development (Unit IIB). Under the original drainage plan, all three streets in Unit IIB ultimately discharged directly to Calle de Entrada, which was constructed as part of Unit I. No underground storm drain was required. The offsite flows from the property to the west (Westland Development Company property) are detained by an earthen detention pond constructed in an easement dedicated by Westland. These flows are attenuated to 4 cfs discharge to Camino del Venado.

Subsequent to the approval of the original report, new hydrologic analysis methods and hydraulic design standards have been implemented by the City of Albuquerque, and all new developments are subject to the standards, including Unit IIB. This necessitated a reanalysis of the downstream capacity of the flows reaching Calle de Entrada and the downstream pond. The new methodology produced slightly higher flow rates and significantly higher volumes than the previously applied method. Calle de Entrada was at capacity using the previous methods, so the higher flows bring it beyond current standards. This will require construction of underground storm drains in Calle de Entrada to support the proposed subdivision.

Peak flow rates and volumes were developed using current hydrologic methods presented in the Development Process Manual. Table I shows peak flow rates and volumes at analysis points for both the previous reports and the new analysis. Exhibit I included in the back of this report is the original basin map and drainage plan from the "Brasher" drainage report. It shows the locations of basins and analysis points used in the table.

OV-UTIL.DWG



SCALE: 1" = 100'

UTILITY NOTES

1.) STATIONING ALONG ℄ OF STREET UNLESS OTHERWISE NOTED.

2.) SANITARY SEWER LINE LENGTHS COMPUTED FROM MH ℄ TO MH ℄.

3.) SLOPES ARE COMPUTED INVERT TO INVERT. MH RIM ELEVATIONS GIVEN ARE APPROXIMATE. CONTRACTOR SHALL ADJUST ALL RIMS TO FINAL GRADE.

4.) CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH UTILITY COMPANIES.

5.) CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AND UTILITY CONNECTIONS PRIOR TO BEGINNING CONSTRUCTION. SHOULD A CONFLICT EXIST OR DESIGN REVISIONS BE REQUIRED FOR ANY REASON, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND ALLOW SUFFICIENT TIME FOR DESIGN REVISIONS SO AS TO NOT DELAY THE CONSTRUCTION SCHEDULE.

LEGEND

- EXISTING WATERLINE
- EXISTING STORM DRAIN
- EXISTING SANITARY SEWER
- EXISTING MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING GATE VALVE
- PROPOSED CATTLE GUARD INLET
- PROPOSED WATERLINE
- PROPOSED STORM DRAIN
- PROPOSED SANITARY SEWER
- PROPOSED MANHOLE
- PROPOSED FIRE HYDRANT
- PROPOSED GATE VALVE
- PROPOSED CAP OR PLUG
- PROPOSED SINGLE METER, WATER SERVICE LINE
- PROPOSED DOUBLE METER, WATER SERVICE LINES
- PROPOSED SANITARY SEWER SERVICE LINE
- PROPOSED CROSS, TEE, OR ELBOW
- PNM UTILITY CONDUIT
- EXISTING TYPE "B" STORM INLET
- PROPOSED TYPE "B" STORM INLET

AVID ENGINEERING, INC.
Civil ⇔ Structural ⇔ Transportation
[illegible]

AS BUILT INFORMATION
CONTRACTOR
DATE
BENCH MARKS
SURVEY INFORMATION
FIELD NOTES BY DATE
NO.
ENGINEER'S SEAL
MICRO-FILM INFORMATION
DATE
RECORDED BY
NO.
REMARKS BY
DESIGN
DESIGNED BY DATE
DRAWN BY DATE
CHECKED BY DATE

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: LAS LOMITAS SUBDIVISION, UNIT IIB
OVERALL UTILITY PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			Water		
Transportation			Waste Water		
Hydrology					

DRAWING NO. | MAP NO. | SHEET OF

FIGURE III
UNIT IIB LAYOUT

LAS LOMITAS UNIT IIB
ANALYSIS USING NEW HYDROLOGY
ASSUMES WESTLAND BASIN EXISTING CONDITION
ASSUME POND DISCHARGES 4 CFS TO CAMINO DEL VENADO
ASSUME NO VOLUME IMPACTS ON DOWNSTREAM POND FROM BASIN 18 POND

AP	BASIN(S)	AREA	NEW Q100 (CFS)	STREET CAPACITY (CFS)	STORM DRAIN (CFS)	OLD Q100 (CFS)	NEW VOLUME (CF)	OLD VOLUME (CF)	LOCATION
1	1	7.2	24.6	8.5		21.4	36,590	19,602	
2	2	4.0	13.6	3.1		11.9	20,328	10,890	
3	3	2.8	9.5	1.1		8.3	14,230	7,623	
4	4	1.6	5.5			4.8	8,131	4,356	
5	5	2.0	6.8	24.2		6.0	10,164	5,445	
6	6	7.1	24.2	21.1		21.1	36,082	19,330	
7	7	0.4	1.4	3.1		1.2	2,033	1,089	
8	8	2.5	8.5			7.1	12,705	6,806	
9	9	4.3	14.7			12.8	21,853	11,707	AGUILA ABOVE ENTRADA
10	10	4.6	15.7			13.7	23,377	12,524	VIENTO ABOVE ENTRADA
11	11	0.9	3.1			2.7	4,574	2,450	
12	12	0.6	2.0			1.8	3,049	1,634	
18	18	N/A	40			N/A	N/A	40,838	OFFSITE BASIN (WESTLAND)
3	2, 3	6.8	23.2			20.2	34,558	18,513	
4	2-4	8.4	28.6	56		25.0	42,689	22,869	ENSUENO ABOVE VENADO
6	5, 6, 18	9.1	35.0	80		27.1	46,246	24,775	VENADO ABOVE ENSUENO
7	2-7, 18	17.9	65.0	80		50.8	90,968	48,733	VENADO ABOVE ENTRADA
8	1-8, 18	27.6	98.1	90	8	74.9	140,263	75,141	ENTRADA ABOVE AGUILA
11	1-9, 11, 18	32.8	115.8	90	26	85.4	166,690	89,298	ENTRADA ABOVE VIENTO
12	1-12, 18	38.0	133.6	90	44	98.7	193,116	144,293	ENTRADA AT POND OUTFALL

HYDROLOGIC ASSUMPTIONS PER DPM CHAPTER 22 (NEW HYDROLOGY)

5 LOTS PER ACRE RAINFALL ZONE 1

LAND TREATMENTS	% OF AREA	QP (CFS)	RUNOFF (INCHES)
B	25%	2.03	0.67
C	25%	2.87	0.99
D	50%	4.37	1.97

OVERALL EXCESS PRECIPITATION 1.40 INCHES
OVERALL QPEAK 3.41 CFS PER ACRE

TABLE I
PEAK FLOW RATES
& VOLUMES

Calle de Entrada has a slope of 0.6% and has no homes fronting on it. Flow is subcritical, and the original design was for storm drainage to flow at a depth of 0.87 feet to the pond constructed with Unit I. Current design standards are for street flows to be below top-of-curb, for the alternate depth where flow is supercritical. Based on conversations with City staff, we are proposing that the storm drain to be constructed in Calle de Entrada with this project be designed to allow for a street flow depth of 0.87 feet due to the following circumstances:

- There are no driveways fronting the street
- The flow is subcritical
- The developer will stabilize the landscape strip with concrete or other acceptable treatment

Based on the above criteria, the storm drain in Calle de Entrada would have a maximum diameter of 36" near the southern end of Calle de Entrada, and could be reduced to 24" and 30" above Corte del Viento. The proposed system would terminate at the intersection of Camino Aguila and Calle de Entrada, but would extend to pick up flows in Camino Aguila. Runoff in Corte del Viento will also be intercepted by the storm drain upstream of the intersection with Calle de Entrada.

Calle de Entrada is already constructed, but there is no sanitary sewer within it downstream of the intersection with Camino de Aguila. Therefore, we propose locating the storm drain in the east side of the road approximately five feet from the road centerline. This location will allow construction without relocation of curb and gutter (only pavement will be replaced.) A sketch plan and profile of the road showing the location of the proposed storm drain is shown in Figure IV.

Because of conflicts with existing utilities in Calle de Entrada (where side streets cross) the storm drain will have to be approximately seven feet deep at the invert. This will require it discharge at a point below the existing invert of the pond. We propose to lower the ibottom of the pond by approximately four feet, to the level at which the storm drain will discharge into it. This will serve two purposes: 1) it will accommodate the storm drain flows, and 2) it will provide additional storage volume.

The proposed configuration of the entrance to the enlarged pond is shown in Figures IV and V. The pond bottom would be lowered, with the sideslopes and new bottom protected by soil cement as is currently in place. The new 36" storm drain would discharge directly to the new pond, with a matching invert. The area of the pond immediately adjacent to the outlet structure would not be lowered, to maintain the structural rigidity of the outlet. However, the existing 24" outlet CMP would be extended to the new pond bottom as shown in Figures IV and V, to maintain positive drainage of the pond. If desirable, an orifice plate could be provided on the extended pipe, to attentuate the discharge from the pond.

CALLE DE ENTRADA

CAMINO AGUILA

CORTE DEL VIENTO

8"SAS

6"W

8"W

8"W

10"SAS

24"

30"

36"

20'

30'

60'

60'

32'

32'

STA. 8+43.87

STA. 8+27.87, 50'RT
BUILD D.I.

STA. 8+59.87, 50'RT
BUILD D.I.

STA. 8+59.87, 10'LT
BUILD MH

STA. 9+09.87, 20'RT&LT
BUILD D.I.

STA. 9+31.87, 10'LT
BUILD MH

STA. 10+93.87

STA. 10+77.87, 50'RT
BUILD D.I.

STA. 11+09.87, 50'RT
BUILD D.I.

STA. 11+09.87, 10'LT
BUILD MH

10.5x

5.8

5.2

24" CMP

6.0

6.0

SCALE: 1"-50' HORIZ
1"-10' VERT

72.00' @
S=0.009

178.00' @
S=0.009

147'± @
S=0.009

21'± @ S=0.009

EXISTING OUTFALL

5220

5210

5200

EXIST. 8"W

EXIST. 8"SAS

24"RCP
Q=15 cfs

30"RCP
Q=26 cfs

36"RCP
Q=44 cfs

24"

24"

STA. 8+59.87, 10'LT
INV=5209.41

STA. 9+31.87, 10'LT
INV=5208.76

STA. 11+09.87, 10'LT
INV=5207.16

STA. 13+49.35
EXISTING STANDPIPE
INV=5205.00

8+00

9+00

10+00

11+00

12+00

13+00

FIGURE IV
CALLE DE ENTRADA

AVID ENGINEERING, INC.

PROJECT NAME
PROJECT NO.
SUBJECT
SHEET OF
BY DATE
CH'D DATE

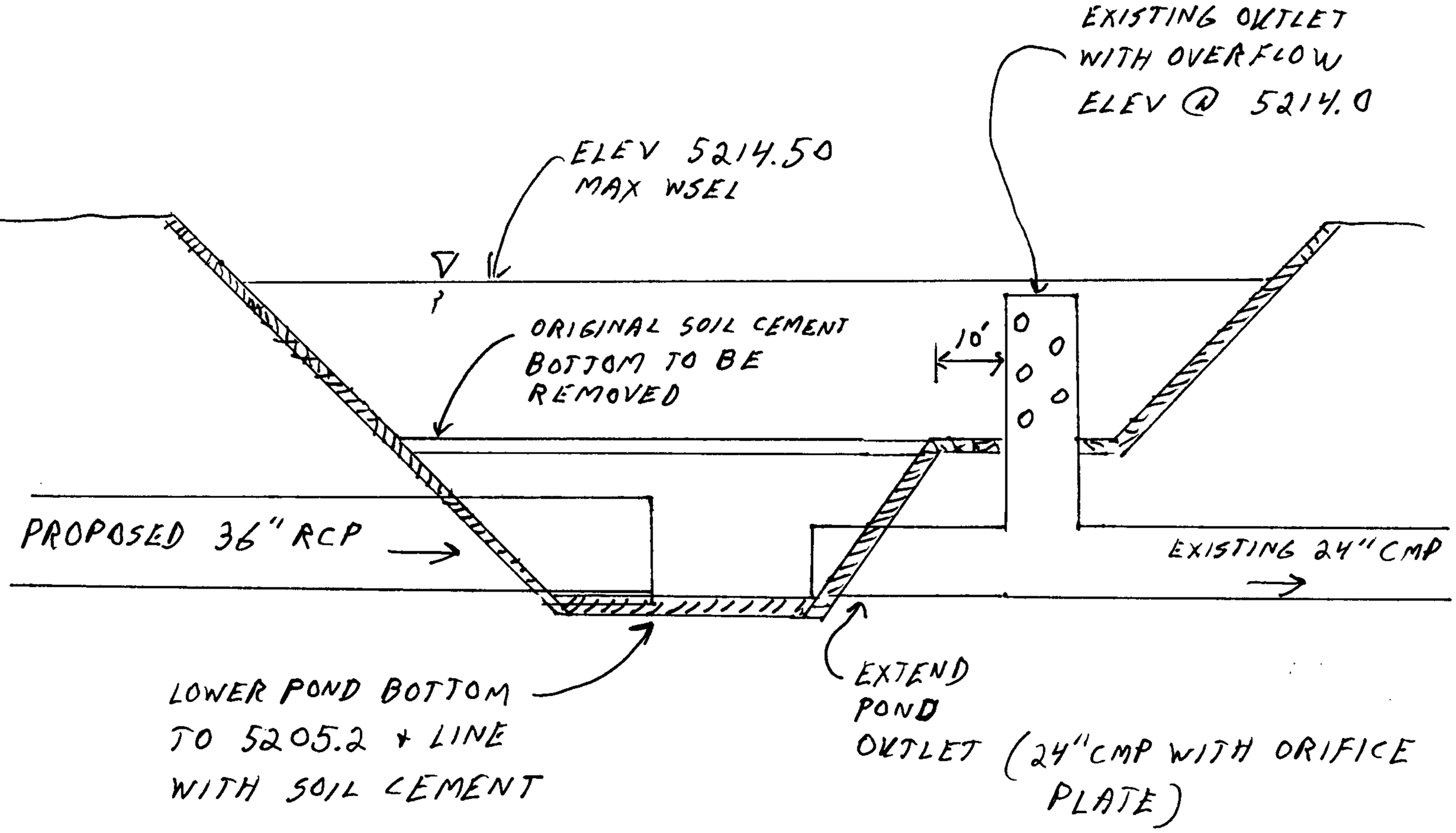


FIGURE V

The current hydrologic analysis predicts a much larger volume of runoff than was used in the previous reports. This increased volume will be stored by in the enlarged pond. Since downstream capacity is limited by the existing outfall, the volume of the pond will be increased by approximately 50,000 cubic feet, which is the full amount of the increased runoff volume. The pond will be enlaged by making it deeper as described in the preceeding paragraph. The bottom will be lined with soil cement, as in the existing situation. Volume calculations are included in the Appendix A.

The proposed improvements will maintain storm runoff within the pubnlic right-of-way, and will not cause erosion of the public improvements. Table II shows the proposed flows and depths of flow in the strees in Unit IIB.

MIREHAVEN ARROYO TRIBUTARY

The developer has met with officials of the City and AMAFCA several times to determine feasible options for handling the arroyo adjacent to the property. In reviewing the options, AMAFCA suggested a new analysis to determine an envelope of expected further erosion of the channel into the property. This analysis was performed, and the results indicated that the channel could be expected to erode into the first row of lots along it, but it is not likely to erode further than that. Based on a positive review of the analysis by AMAFCA, it was suggested that these lots be excluded from development until such time that the channel is satisfactorily stabilized.

The issue of how to stabilize the channel is a complex one, with several adjacent landowners, and a myriad of possible structural solutions. Presley Company is analyzing several options for this, but wishes to not delay the remainder of the development pending resolution of the arroyo improvement. To accomplish this end, the developer and AMAFCA have agreed to the following arrangement whereby Unit IIB may proceed and exclude development on the lots adjacent to the arroyo.

1. Presley Company agrees that the lots shown on Exhibit III will not be suitable for construction of homes until such time that the arroyo is improved and/or stabilized.

2. AMAFCA agrees that these lots may be included in the platting process as long as there is adequate assurance that they will not be built on until the arroyo issue is resolved.

3. Presley company agrees to grant to AMAFCA a blanket drainage easement over each of the twenty lots along the arroyo, to assure AMAFCA that no construction may take place. The easement will be granted and filed immediately following the filing of the plat, and will deny construction of any buildings or other structures without the express permission of AMAFCA. It will also give AMAFCA right of entry for access to, or maintenance of, the arroyo, but not the right to construct permanent facilities on the lot.

TABLE II

SUMMARY OF STREET FLOWS AND DEPTHS

STREET	AP	Q100 (CFS)	STREET WIDTH	SLOPE	STREET CAPACITY	DEPTH OF FLOW	CURB TYPE
CAMINO DEL VENADO	6	35.0	32	1.0%	70	0.55	STANDARD
CAMINO DEL VENADO	7	65.0	32	1.0%	70	0.67	STANDARD
CAMINO DEL AGUILLA	9	15.0	28	4.8%	120	0.33	MOUNTABLE
CORTE DEL VIENTO	10	16.0	28	3.9%	120	0.36	MOUNTABLE
CALLE DE ENTRADA	8	83	40	0.6%	90	0.81	STANDARD
CALLE DE ENTRADA	11	89.0	40	0.6%	90	0.83	STANDARD
CALLE DE ENTRADA	12	89.0	40	0.6%	90	0.83	STANDARD

NOTE: FLOW DEPTHS ARE FROM PLATE 22.3 D-1 OF THE DPM

4. Presley Companies will construct the roads and utilities adjacent to the lots, in order to serve the lots on the other side of the road. Presley will also construct an earthen berm on each of the arroyo lots, to help limit erosion if it occurs. The height of the berm will be at least to the level of the energy grade line of the arroyo during the 100-year event.

5. Presley Company will diligently pursue resolution of a permanent solution for stabilization of the arroyo.

6. AMAFCA agrees to vacate and release the blanket easements on the lots at such time as the arroyo has been stabilized and the lots are no longer in reasonable danger of flooding. The improvements to accomplish this will be subject to the review and approval of AMAFCA, the City and Presley Companies.

Appendix B contains a copy of the proposed easement and agreement between Presley Companies and AMAFCA. Figure VI shows the lots to be excluded from construction at this time.

RECOMMENDATION

The principal purpose of this report is to identify required infrastructure and costs of infrastructure, in order to develop a conservative financial guarantee to allow the plat to be processed. The existing infrastructure list associated with the preliminary plat identifies paving and utility infrastructure, and detailed cost estimates for these items have been previously prepared. This report identifies the additional drainage improvements needed to support the subdivision, and Appendix C includes a detailed, conservative estimate for their construction, along with a listing of the infrastructure.

We recommend the information in this report be used for the financial guarantee of the drainage items, in accordance with the Infrastructure List included as Appendix D. This recommendation includes excluding the lots shown in Exhibit III from development until additional improvements outside the scope of this report are designed, approved and constructed. The information in this report should be used for the design of the storm drain improvements associated with Unit IIB.

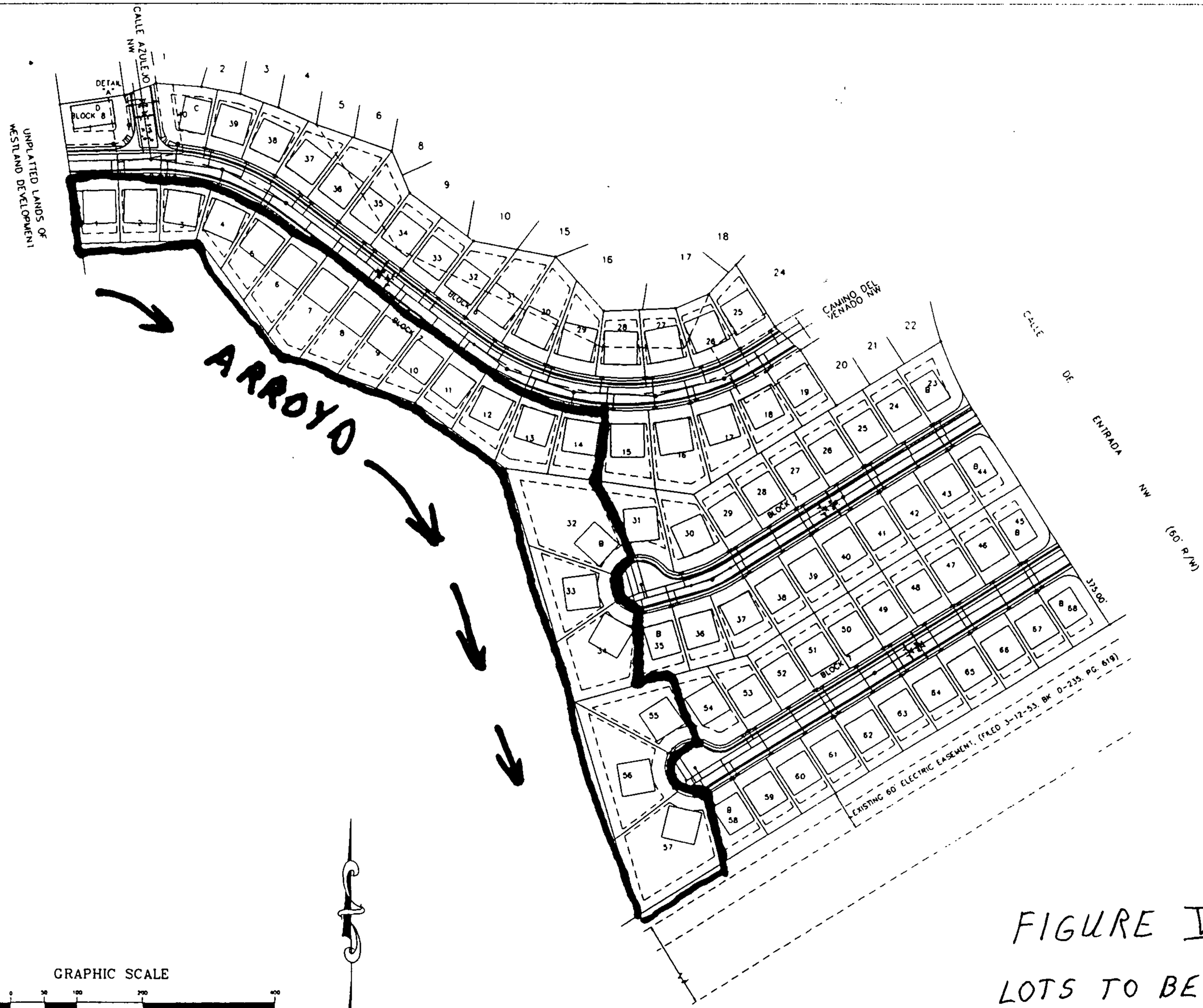


FIGURE VI

LOTS TO BE EXCLUDED FROM CONSTRUCTION

REFERENCES

DEVELOPMENT PROCESS MANUAL, VOLUME II, City of Albuquerque, Chapter 22

SOIL SURVEY OF BERNALILLO COUNTY, NEW MEXICO, U.S. Soil Conservation Service

ALBUQUERQUE MASTER DRAINAGE STUDY, VOLUME II, Bohannan-Huston Inc.

HYDROLOGIC MODELING AND DRAINAGE CRITERIA - USING THE AHYMO COMPUTER PROGRAM, Short Course Manual, UNM, 1992

FAR NORTHWEST DRAINAGE MANAGEMENT PLAN, FINAL REPORT, Bohannan-Huston, Inc., March 1986.

EL RANCH ATRISCO PHASE V, CONCEPTUAL GRADING AND DRAINAGE PLAN, Easterling and Associates, July 1987.

EROSION STUDY, MIREHAVEN ARROYO ADJACENT TO LA MERCED DE ATRISCO SUBDIVISION, Easterling and Associates, Inc., January 1988.

DRAINAGE REPORT FOR LA MERCED DE ATRISCO, Brasher Engineering, Inc., March 1989, Revised March 1991.

DRAINAGE REPORT UPDATE FOR LAS LOMITAS SUBDIVISION - UNIT II; AVID Engineering, Inc., 1992

APPENDIX A

COMPUTATIONS

LAS LOMITAS UNIT IIB
ANALYSIS USING NEW HYDROLOGY
ASSUMES WESTLAND BASIN EXISTING CONDITION
ASSUME POND DISCHARGES 4 CFS TO CAMINO DEL VENADO
ASSUME NO VOLUME IMPACTS ON DOWNSTREAM POND FROM BASIN 18 POND

AP	BASIN(S)	AREA	NEW Q100 (CFS)	STREET CAPACITY (CFS)	STORM DRAIN (CFS)	OLD Q100 (CFS)	NEW VOLUME (CF)	OLD VOLUME (CF)	LOCATION
1	1	7.2	24.6			21.4	36,590	19,602	
2	2	4.0	13.6			11.9	20,328	10,890	
3	3	2.8	9.5			8.3	14,230	7,623	
4	4	1.6	5.5			4.8	8,131	4,356	
5	5	2.0	6.8			6.0	10,164	5,445	
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8	8	2.5	8.5			7.1	12,705	6,806	
9	9	4.3	14.7			12.8	21,853	11,707	AGUILA ABOVE ENTRADA
10	10	4.6	15.7			13.7	23,377	12,524	VIENTO ABOVE ENTRADA
11	11	0.9	3.1			2.7	4,574	2,450	
12	12	0.6	2.0			1.8	3,049	1,634	
18	18	N/A	40			N/A	N/A	40,838	OFFSITE BASIN (WESTLAND)
3	2, 3	6.8	23.2			20.2	34,558	18,513	
4	2-4	8.4	28.6	56		25.0	42,689	22,869	ENSUENO ABOVE VENADO
6	5, 6, 18	9.1	35.0	80		27.1	46,246	24,775	VENADO ABOVE ENSUENO
7	2-7, 18	17.9	65.0	80		50.8	90,968	48,733	VENADO ABOVE ENTRADA
8	1-8, 18	27.6	98.1	90	8	74.9	140,263	75,141	ENTRADA ABOVE AGUILA
11	1-9, 11, 18	32.8	115.8	90	26	85.4	166,690	89,298	ENTRADA ABOVE VIENTO
12	1-12, 18	38.0	133.6	90	44	98.7	193,116	144,293	ENTRADA AT POND OUTFALL

≈ 50K CY

HYDROLOGIC ASSUMPTIONS PER DPM CHAPTER 22 (NEW HYDROLOGY)

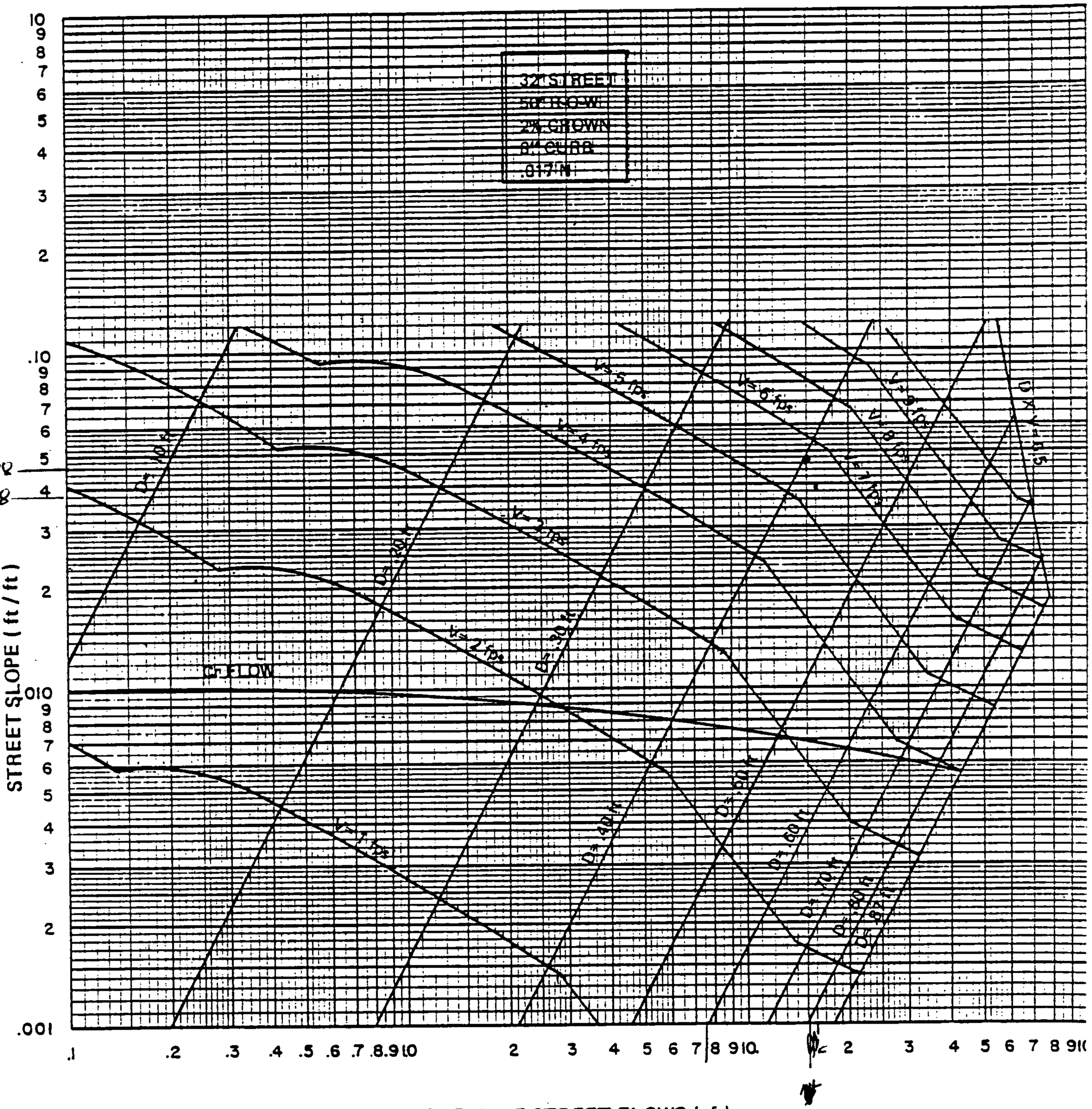
5 LOTS PER ACRE RAINFALL ZONE 1

LAND TREATMENTS	% OF AREA	QP (CFS) 1	RUNOFF (INCHES)
B	25%	2.03	0.67
C	25%	2.87	0.99
D	50%	4.37	1.97

OVERALL EXCESS PRECIPITATION 1.40 INCHES
OVERALL QPEAK 3.41 CFS PER ACRE

TABLE I
PEAK FLOW RATES
+ VOLUMES

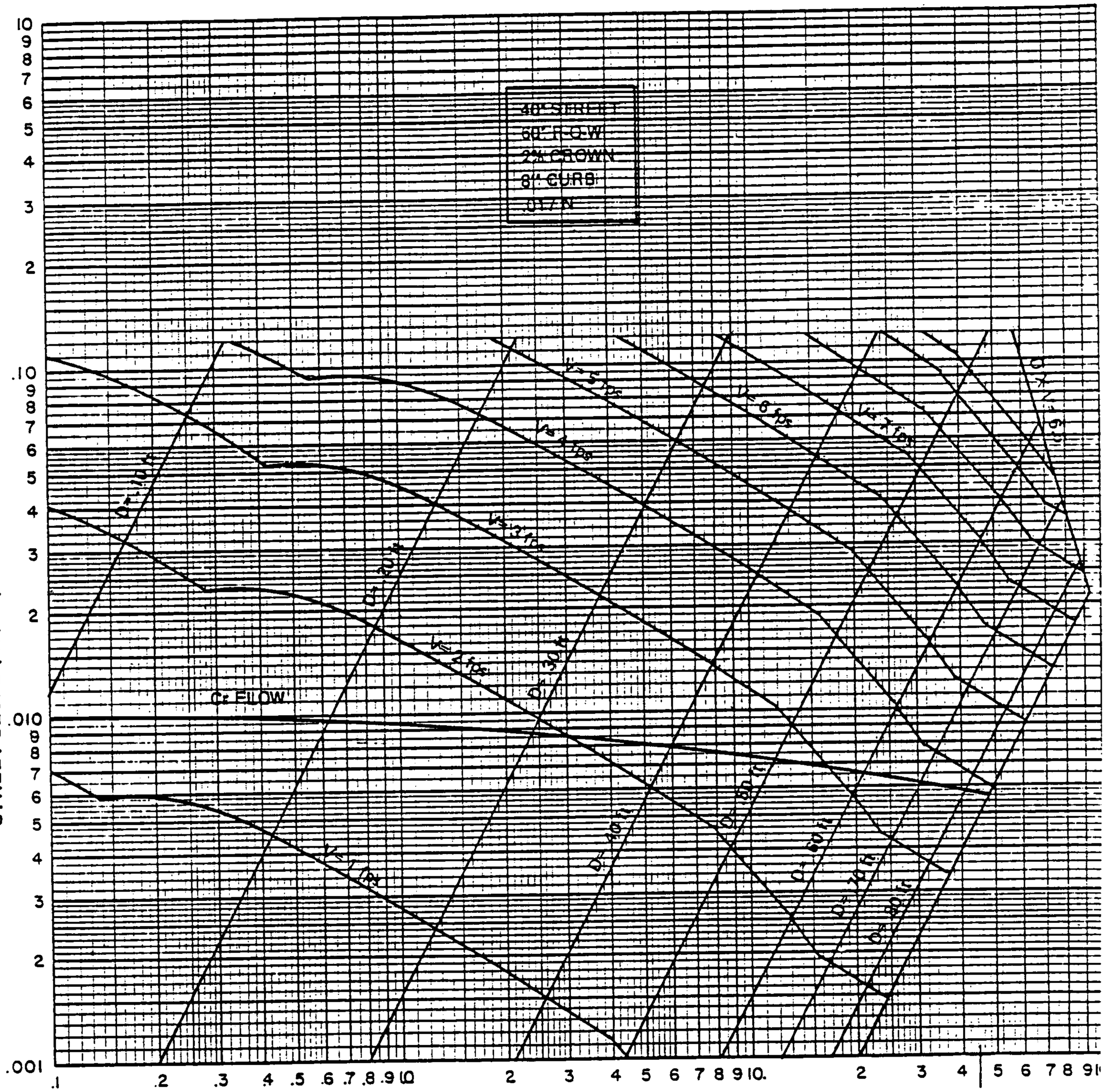
STREET CAPACITY



REV. 3-83

PLATE 22.3 D-1

STREET CAPACITY



ONE HALF STREET FLOWS (cfs)

REV. 3-83

PLATE 22.3 D-2

AVIL ENGINEERING, INC.

Civil • Structural • Transportation

October 27, 1993

Cliff Anderson, P.E.
Albuquerque Metropolitan Arroyo Food
Control Authority
2600 Prospect, NE
Albuquerque, NM 87107

Re: LAS LOMITAS, UNIT IIB
MIREHAVEN FLOODPLAIN ANALYSIS

Dear Cliff:

Our meeting on September 9, 1993 was very productive and your suggestions have been very well received. We would like to pursue the option of determining an appropriate drainage easement based on the Erosion Limits method of analysis and granting a drainage easement after the plat is filed.

Submitted for your review is the Erosion Envelope analysis for a branch of the Mirehaven Channel west of Unser Blvd. and adjacent to the Las Lomitas Subdivision. The analysis is based on the Erosion Limits method as suggested by you. The results of the analysis are very consistent with your calculations provided at our meeting. The combined envelope affects an estimated 20 lots.

The process, as we see it, is as follows: 1) Design and process plans with all improvements necessary to serve all lots including lots within the drainage easement including a containment berm; 2) Sign an agreement to grant an exclusive drainage easement to AMAFCA for the lots within the erosion limits; 3) File Plat for subdivision, not showing drainage easements; 4) File drainage easement granted to AMAFCA only; and 5) Build subdivision including containment berm. Please review this process and comment if not acceptable to you.

The developer is anxious to begin review of the easement agreement and easement language. I will call within the next 2 days to discuss the language and obtain examples, if possible. Should you have any questions regarding this submittal, please call anytime.

Sincerely,

Rick Beltramo, P.E.
Project Manager

RB/cs
Enclosures

cc: Charlie Caldwell, CPM

Job No. 3152.154 CORRESP. FILE

c:\projects\lomitas\amafca.wp-10/27/93

6100 Seagull St. NE • Suite 102 • Albuquerque, New Mexico 87109 • (505) 881-5357

AVID ENGINEERING, INC.

EROSION ENVELOPE FOR MIREHAVEN CHANNEL

COMPUTE EFFECTIVE CHANNEL WIDTH

Q_D (dominant discharge) = $0.2\,Q_{100} = 0.2 \times 1680\,cfs = 336\,cfs$

WD EFF. DOM. CHANNEL WIDTH = $g^{-.2} Q_D^{0.4} K^{0.6}$

$= 2.4(Q_{100})^{0.4}$

$= 24.6\,ft$

$g = 32\,ft/s^2$
$Q_D = 336\,cfs$
$K = W/d = 40$ (assumed)

$W_{100} = 4.57\,Q_{100}^{0.4} = 89.1\,ft$

FOR NATURAL CHANNEL

$W_D = 2.489 \cdot Q^{.375} \cdot Q_{100}^{.375} \cdot S^{-.1875}$

$= 1.36\,Q_{100}^{.375} S^{-.1875}$ $\quad S = 1.88\%$

$= 1.36\,(1680)^{.375}(.0188)^{-.1875}$

$= \underline{46.4\,ft}$

$W_{100} = 2.489 \cdot Q_{100}^{.375} \cdot S^{-.1875}$

$= 2.489 \cdot (1680)^{.375} \cdot (.0188)^{-.1875}$

$= 85\,ft$

I DETERMINE CENTERLINE SET BACK (CSB)

EQUATE W_D @ Crit. Eq. with W_D & Mannings

$S_c = .048\,Q_{100}^{-.1333} = 0.0199$

① @ $S \geq S_c$ $\quad W_D = 2.4\,Q_{100}^{0.4}$

② @ $S < S_c$ $\quad W_D = 1.36\,Q_{100}^{.375} S^{-.1875}$

$S = 1.88 < 1.99$ USE CONDITION ② $W_D = 1.36(1680)^{.375}(1.88\%)^{-.1875}$

$= \underline{46.4}$

M_m = @ Max Meander = $2.5 W_D$**

$CSB = M_m + 0.5 W_{100}$ ① $S \geq .048 Q_{100}^{-.1333}$ $CSB = 2.5 \times 2.4 \times Q_{100} + \frac{4.57}{2} Q_{100}^{0.4}$

② $S < .048 Q_{100}^{-.1333}$ $CSB = 3.45 W_D$

$CSB = 3.45 W_D = 3.45 \times 47 = \boxed{160}$

PROJECT NAME LAS LOMITAS IIB SHEET 1 OF

PROJECT NO 3152.154 BY DATE 10/6/93

SUBJECT MIREHAVEN CHANNEL CH'D DATE

AVILA ENGINEERING, INC

II DETERMINE CHANNEL BANK SETBACK (BSB)

① $S \geq .048 Q_{100}^{-.1333}$ $BSB = 2WD + 0.5W_{100} = 2.95 WD$

② $S < .048 Q_{100}^{-.1333}$ $BSB = 2.95WD$

$S = .0183 < .0199$

$BSB = 2.95 (47) = 138.6$ ft **USE 140 ft**

III MINIMUM SETBACK FROM EXISTING 100-YR FLOOD ZONE (FSB)

① $S \geq .048 Q_{100}^{-.1333}$ W_D (ORIGINAL) $= 2.4 Q_{100}^{0.4}$

W_{100}-(ORIGINAL) $= 4.57 Q_{100}^{0.4}$

W_D (REVISED) $= g^{-.2} Q_{100}^{.4} K^{0.6}$

$= 3.347 Q_{100}^{0.4}$

$W_{100\,REV.} = 5.827 Q_{100}^{0.4}$

$FSB = 1.6 WD$

② $S < 0.048 Q_{100}^{-.1333}$

$FSB = 1.6 WD$

$FSB = 1.6 (47) = 74.25$ ft **USE 75'**

DETERMINE MEANDER WAVE LENGTH = ML

$ML = 12.12 W_D = 12.12 \times 85 = 1030'$ @ $\alpha = 50°$

$SL_{RATIO} = 1.357$

PROJECT NAME Las Lomitas IIB SHEET 2 OF

PROJECT NO 3152.154 BY DATE 10/6/13

SUBJECT Meander Width Design CH'D DATE

5250
5225
ΔH = 25'
L = 1330'
S = 25/1330 = 1.88%

- Berm to function as a erosion control berm.
- Berm located 5' from PUE easement. This will allow Utilities to construct without damage or interference with berm.
- Berm would be removed when Mirehaven Channel is improved.

CONTAINMENT BERM

PRUDENT LINE AT 20 FEET FROM "EROSION STUDY ARROYO BANK PER ARROYO ADJACENT TO MIREHAVEN LA MERCED DE ATRISCO SUBDIVISION" BY EASTERLING & ASSOC., INC., JAN., 1988.

BUNKE DEN EASEMENT TO AMAFCA ONLY 20 LOTS

TRACT A-2-A . EL RANCHO ATRISCO

RAINLINE

EMERGENCY SPILLWAY

5255

5250

5225

(PHASE TWO)

DEVELOPMENT

RANCHO ESTERO ROAD

PEDRO

JOSE

HURT

S88°39'38"W

N89°25'36"W

N53°50'33"W 168.90'

N15°51'19"W

S57°54'27"W 708.60'

AVID ENGINEERING, INC.

Compute Estimated Scour Potential

Scour = General Scour + ½ Anti-Dune

General Scour (Contraction Method) =

$$Y_2/Y_1 = \left(\frac{Q_{100=2}}{Q_{100-1}}\right)^{6/7}\left(\frac{W_1}{W_2}\right)^{K_1}\left(\frac{n_2}{n_1}\right)^{K_2}$$

(Q ratio → 1; n ratio → 1)

$$\frac{Y_2}{2.83} = \left(\frac{50}{20}\right)^{.59}$$

evaluated at widest section to narrowest section.

$Y_2 = 4.86$

$Y_s = Y_2 - Y_1 = 4.86 - 2.26 = \underline{2.60\ ft}$

$$\tfrac{1}{2}\text{ Anti Dune} = \frac{h_a}{2} = \frac{0.14}{8}\,\frac{8\pi V^2}{g} = \frac{.14\pi(10.3)^2}{32.2} = 3.63\,ft$$

evaluated @ Section 10, section with highest velocity.

Total Scour = 2.6 ft + 3.6 ft = 6.2 ft

Compare To Pier Scour $\frac{Y_s}{Y_1} = .13\left[\frac{Q}{D_m^{1/3}\,2.83^{7/3}\,25}\right]^{4/7} - 1$

$Y_s = 7.58'$ USE 6.2 ft

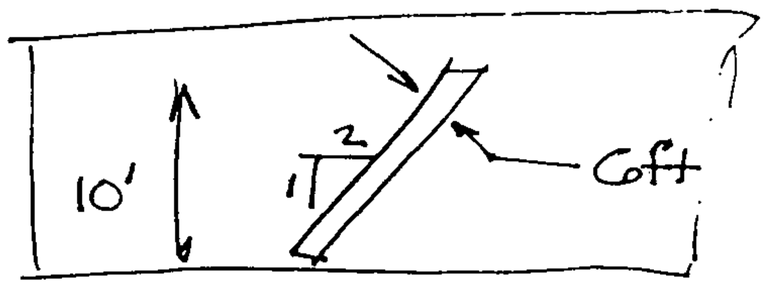
PROJECT NAME _____ SHEET _____ OF _____

PROJECT NO. _____ BY _____ DATE _____

SUBJECT _____ CH'D _____ DATE _____

AVID ENGINEERING, INC.

SOIL CEMENT



EARTHWORK

1500 LF × 230 SF / 27 CF/CY = 12777 C.Y. USE 13,000 C.Y.

Soil Cement

Ave Depth = (6ft + 4ft) ÷ 10ft

Width = 6'8"

$\frac{10' \times 6\frac{8}{12}' \times 1500\,LF}{27} = 3333$ ~~4444~~ CY ~~USE 5000~~

COST ESTIMATE

SITE GRADING	12,777 ~~13,000~~ CY	@ $2.80/CY	= 35,000 ~~36,000~~
SOIL CEMENT	3333 ~~5,000~~ CY	@ $.65/CY	= 216,645 ~~300,000~~
CLEARING AND GRUBBING	5.0 AC	@ $200/AC	= $1,000
			$ ~~362,400~~
			$ 253,420
CONT.	10%		25,342
TOTAL CONST. COST.			278,762

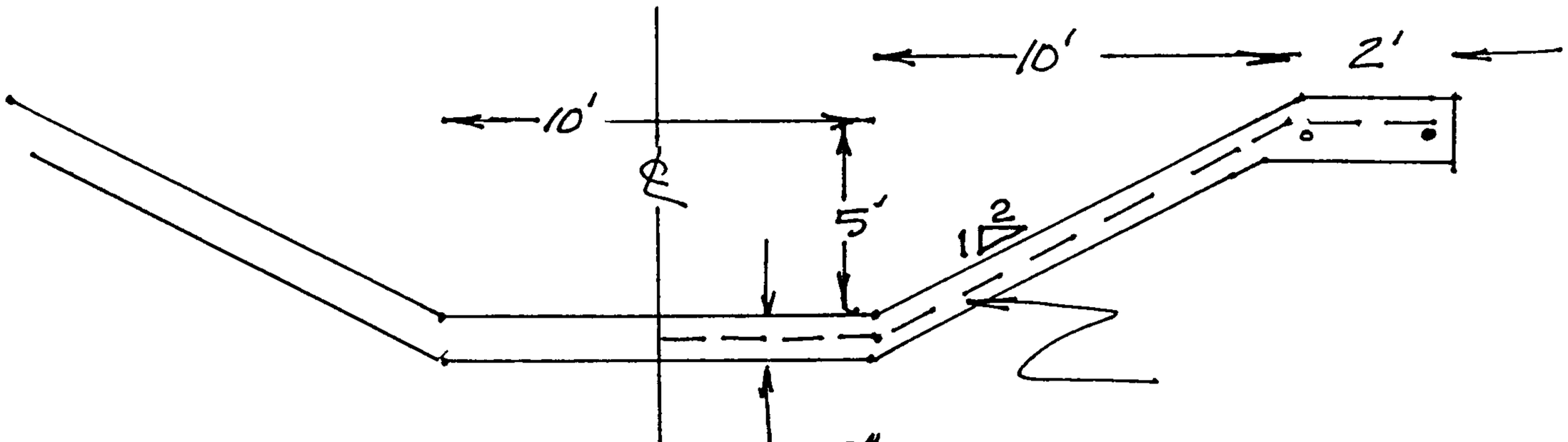
PROJECT NAME LL III SHEET ____ OF ____

PROJECT NO. ____ BY ____ DATE ____

SUBJECT ____ CH'D ____ DATE ____

AVID ENGINEERING, INC.

L-CONCRETE CHANNEL



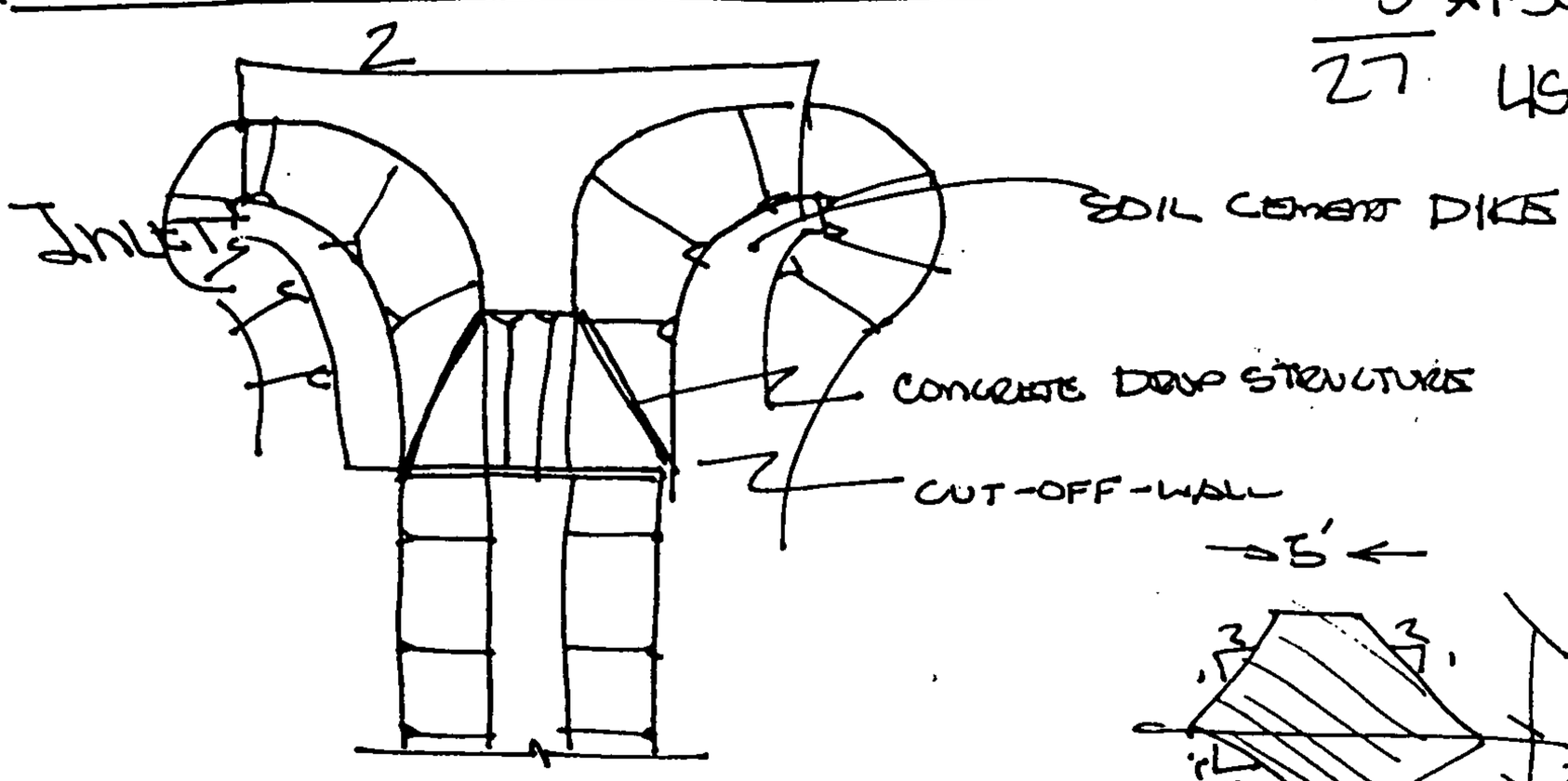
L CONCRETE

$10' + 2\sqrt{10^2 + 5^2} + (2 \times 2) \times 1500 = 54{,}541$ SF 8" CHANNEL

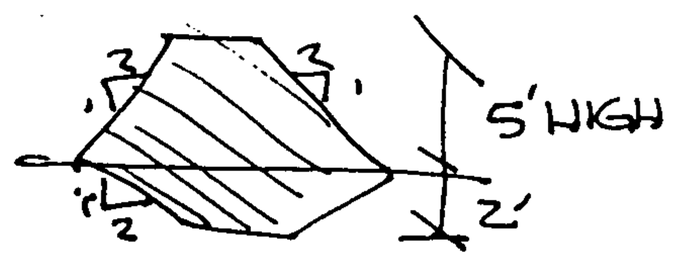
L EARTHWORK

$\frac{(10 + 10 + 10 + 2 + 2 + 5 + 5) + (10)}{27} \times 5' \times 1500 = 7{,}500$ CY

USE 15,000 CY



L INLET



$\text{Volume} = \left(\frac{25+5}{2}\right) \times 5 \times 50' = 3550$

$+$

$\left(\frac{25+17}{2}\right) \times 2 \times 50' = 2100$

$\frac{2100 + 3550}{27} = 217$ CY.

PROJECT NAME _____ SHEET ____ OF ____

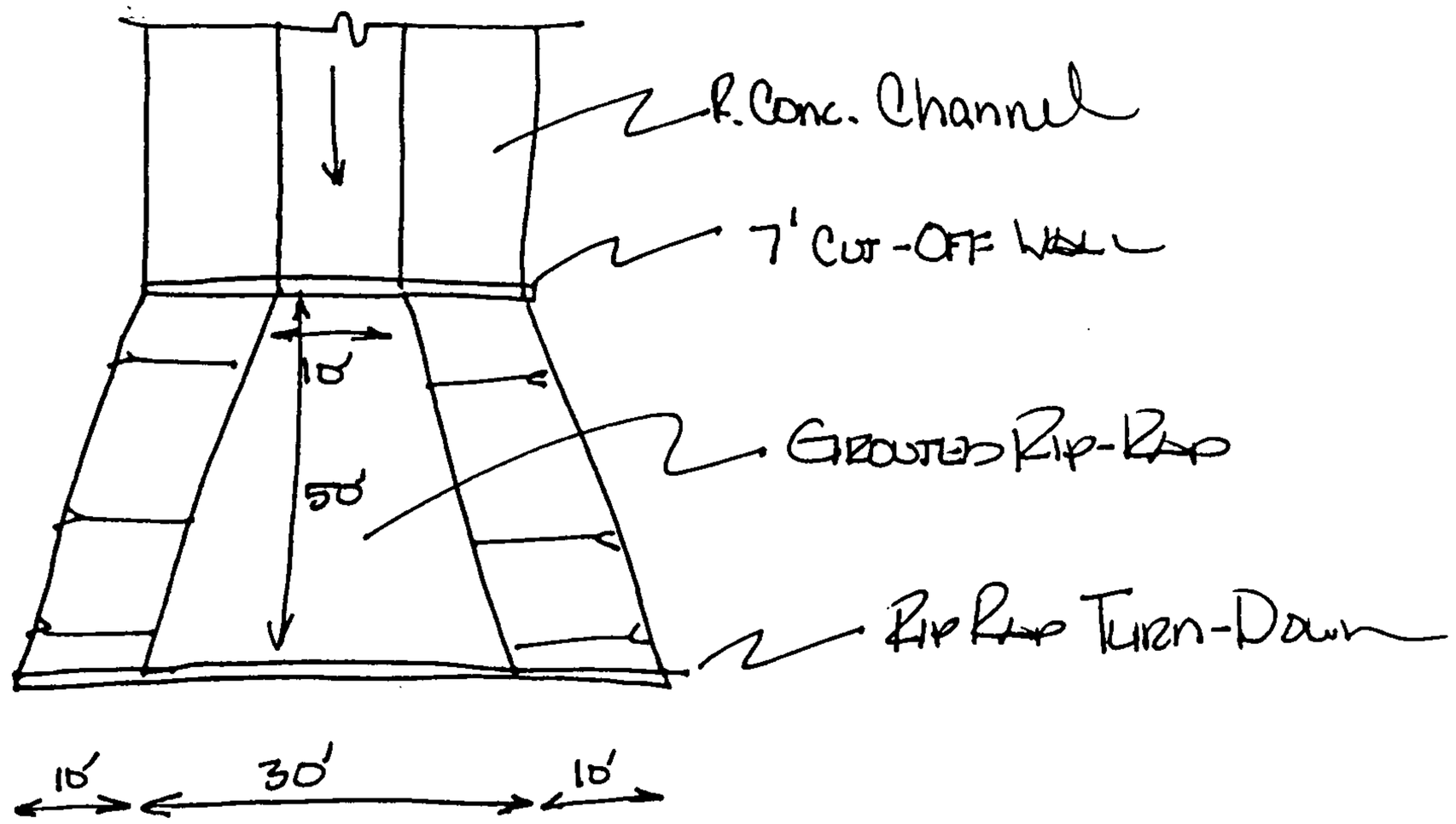
PROJECT NO. _____ BY _____ DATE _____

SUBJECT _____ CH'D _____ DATE _____

AVID ENGINEERING, INC.

OUTLET STRUCTURE

NOTE: AHAFCA may not allow this option. Connection to the Downstream Pond system may be required.



$$= \frac{(10' + 10' + 10') + (30' + 10' + 10')}{2} \times \frac{50' \text{ Length} \times 2' \text{ Thick}}{27}$$

$= 148$ cu. Yd's.

PROJECT NAME _____ SHEET _____ OF

PROJECT NO. _____ BY _____ DATE _____

SUBJECT _____ CH'D _____ DATE _____

AVID ENGINEERING, INC.

COST ESTIMATE

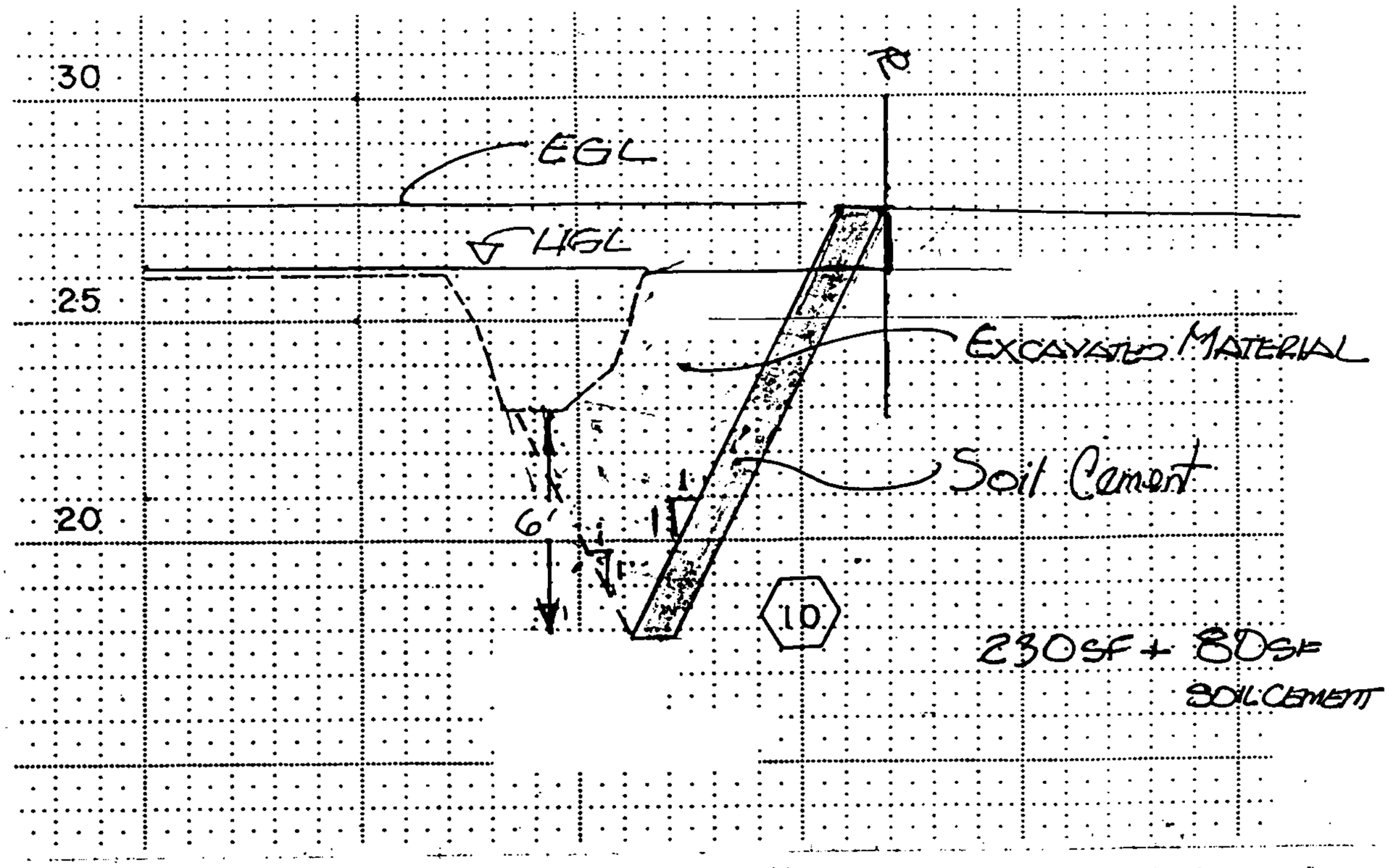
CLEARING & GRUBBING	7 ac	@ $200	=	$ 1,400
8" RCC	55,000 SF	@ $6.00	=	$330,000
EARTHWORK	15,000 CY	@ $3.65	=	$54,750
SOIL CEMENT INLET	220 CY	@ $65.00	=	$ 14,300
GROUTED RIPRAP OUTLET	150 CY	@ $120.00	=	18,000
				418,450
		CONT. 10%		41,845
				$ 460,295.00

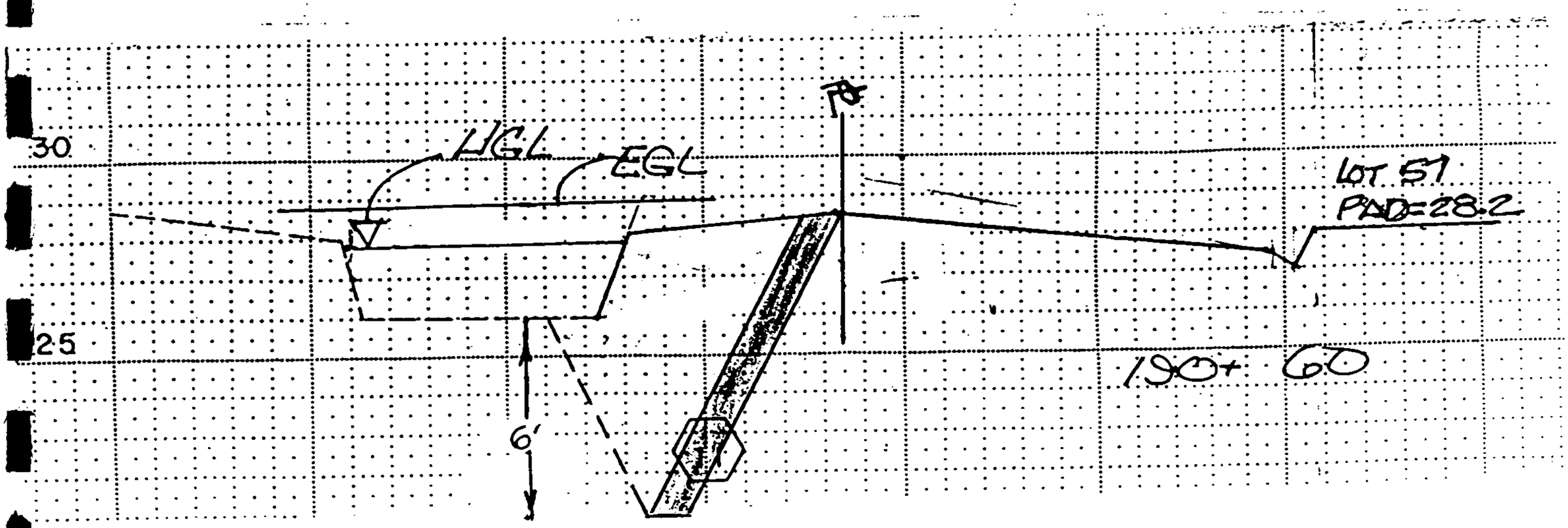
PROJECT NAME _____ SHEET _____ OF _____

PROJECT NO. _____ BY _____ DATE _____

SUBJECT _____ CH'D _____ DATE _____

AVID ENGINEERING, INC.



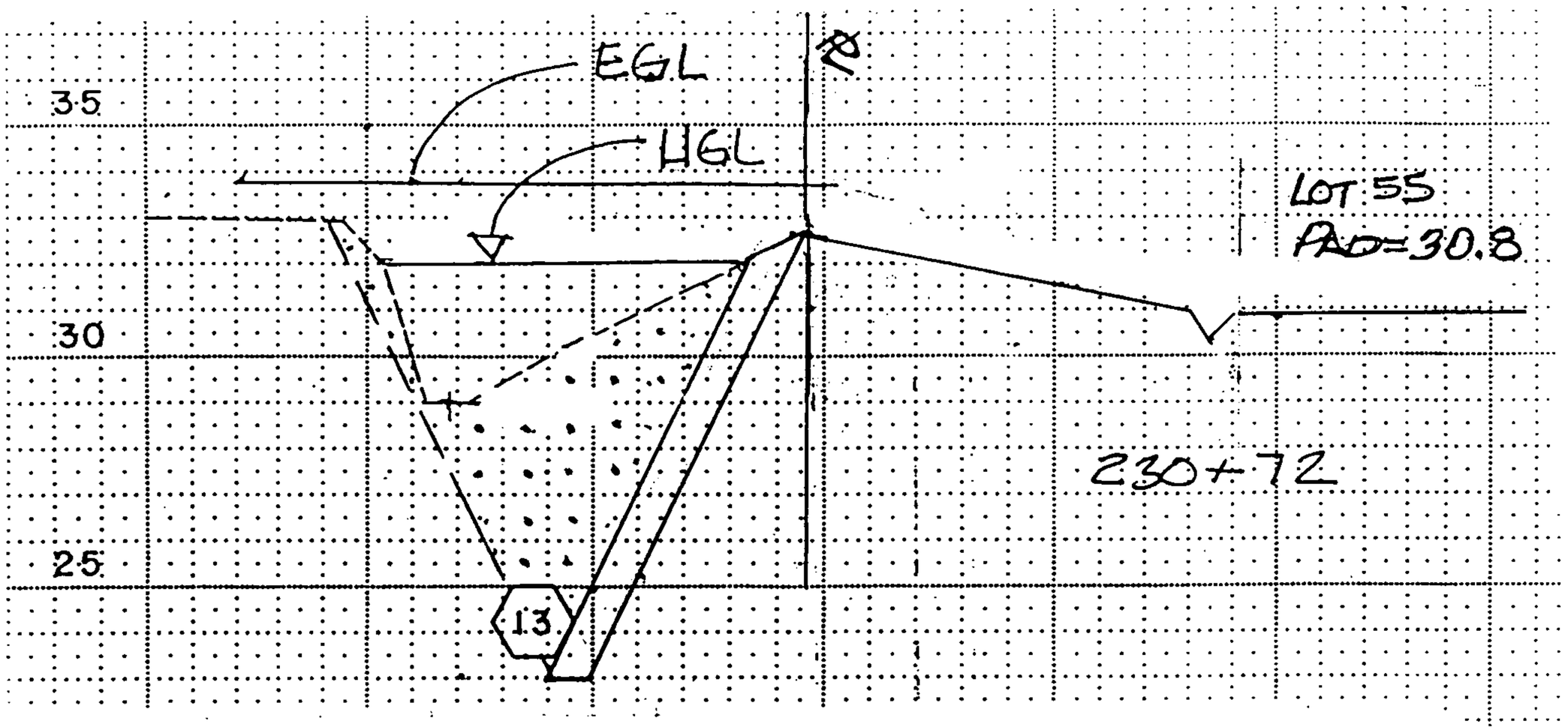


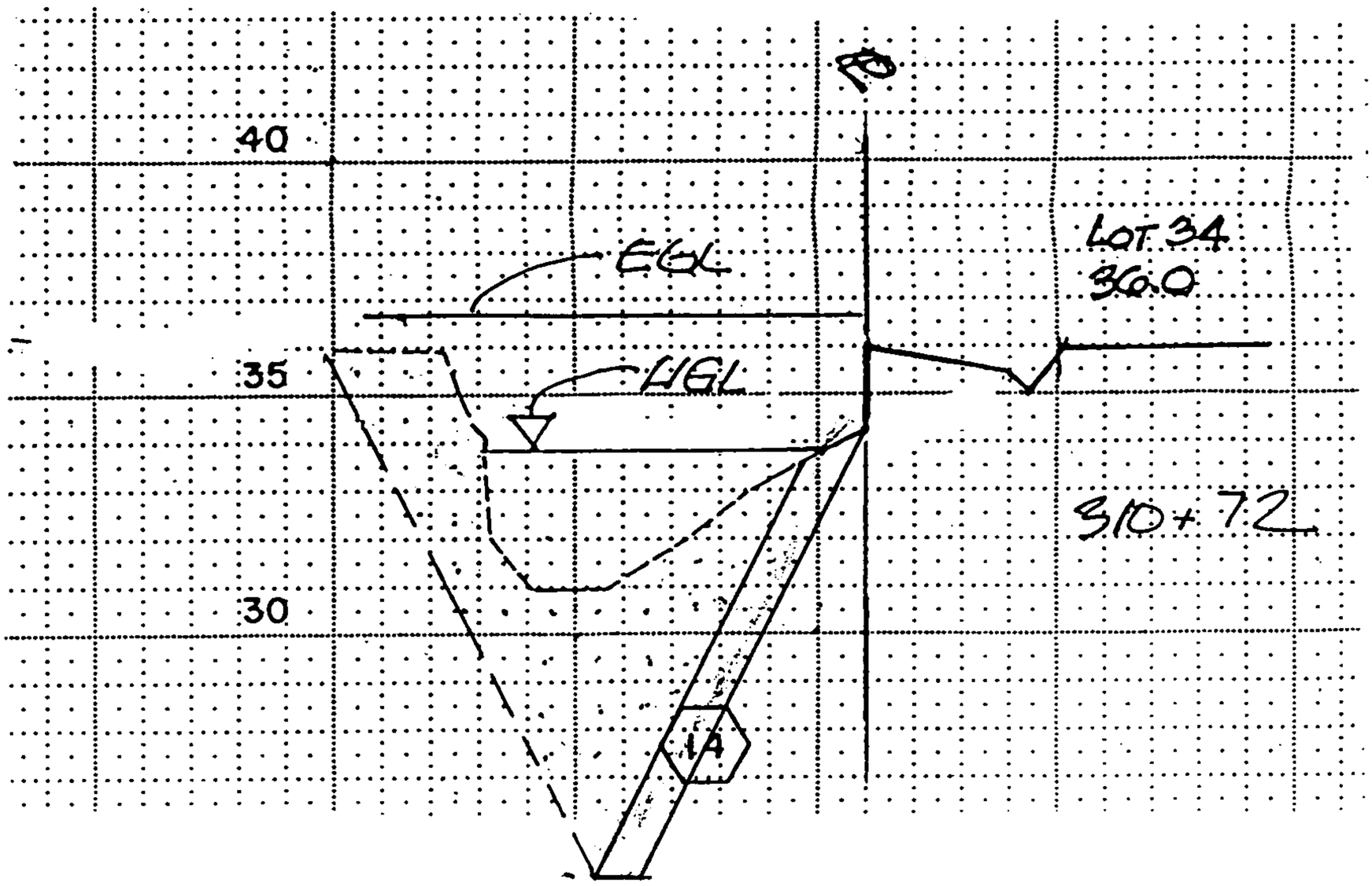
PROJECT NAME _____ SHEET _____ OF _____

PROJECT NO. _____ BY _____ DATE _____

SUBJECT _____ CH'D _____ DATE _____

AVID ENGINEERING, INC.



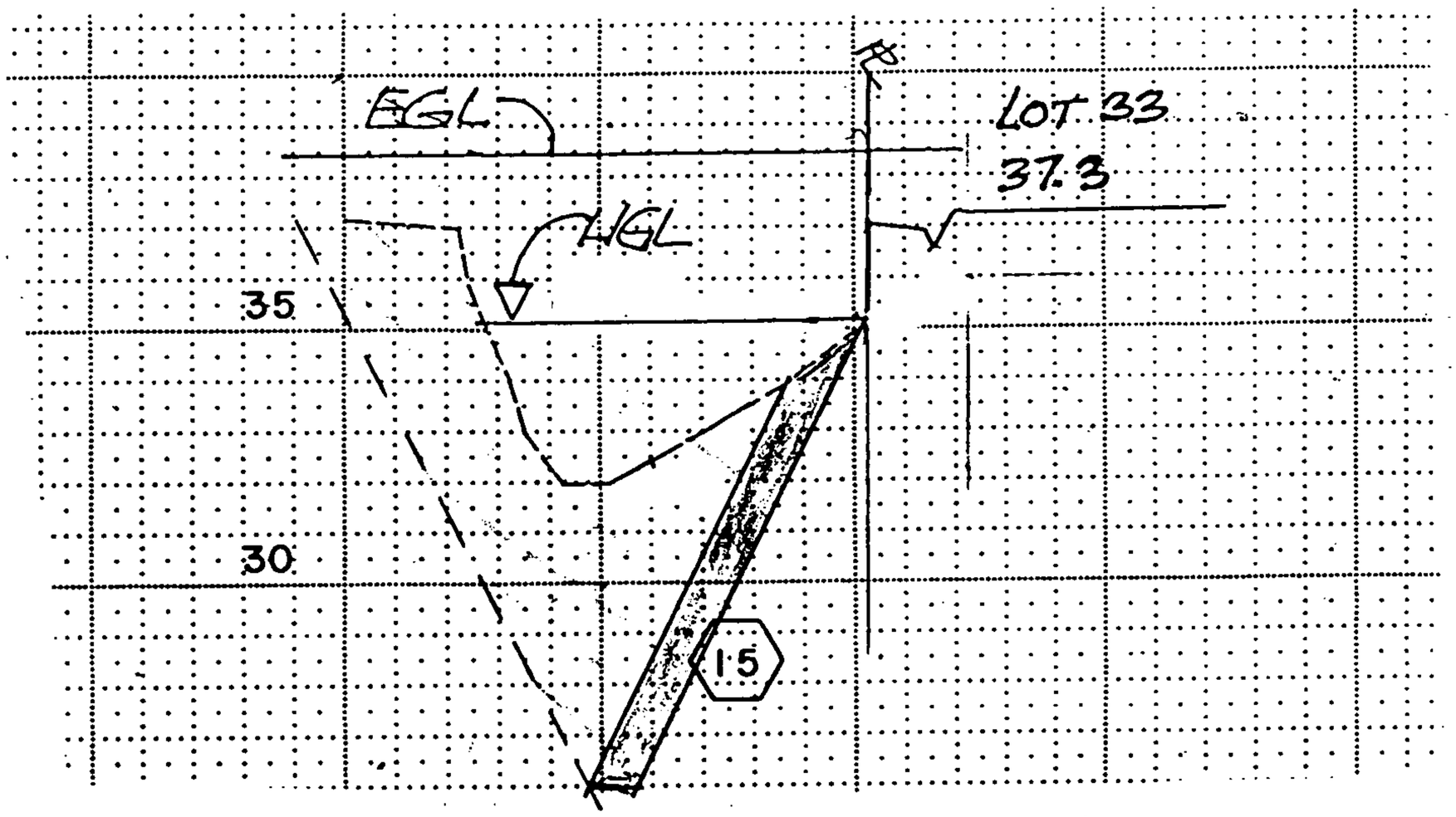


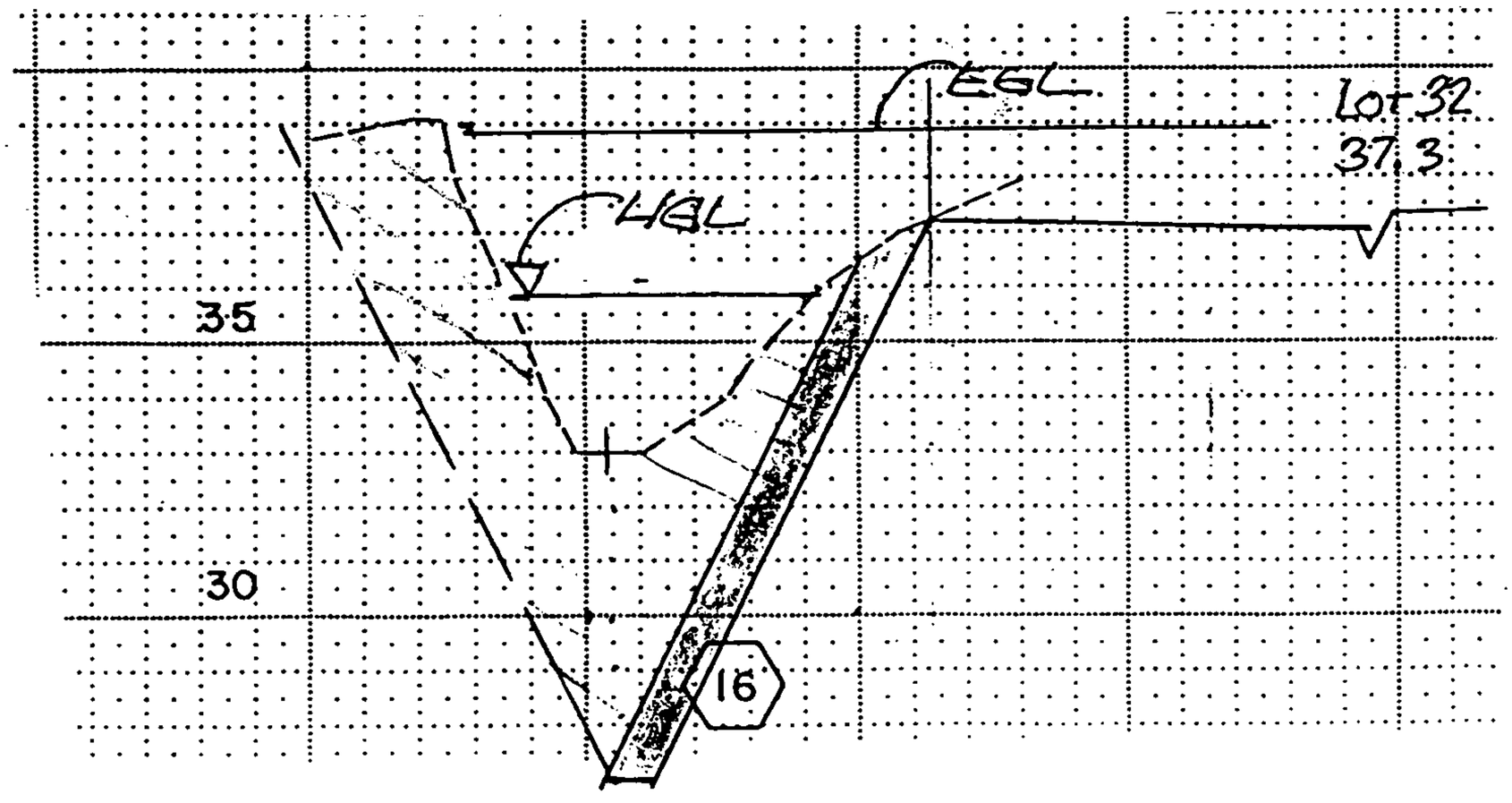
PROJECT NAME _____ SHEET _____ OF _____

PROJECT NO. _____ BY _____ DATE _____

SUBJECT CH'D DATE

AVILA ENGINEERING, INC.





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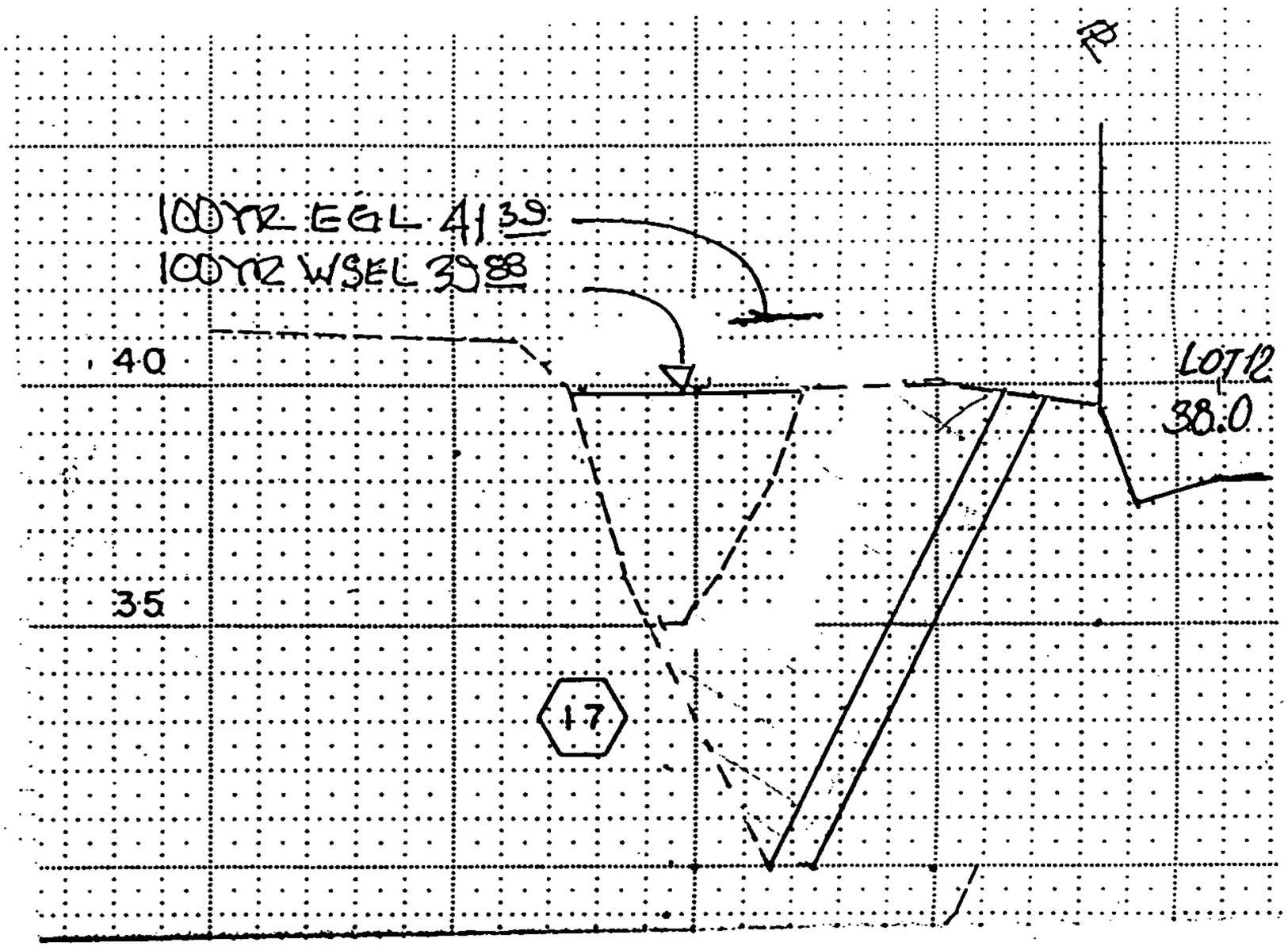
PROJECT NO. _____ BY _____ DATE _____

SUBJECT _____ CH'D _____ DATE _____

AVID ENGINEERING, INC.



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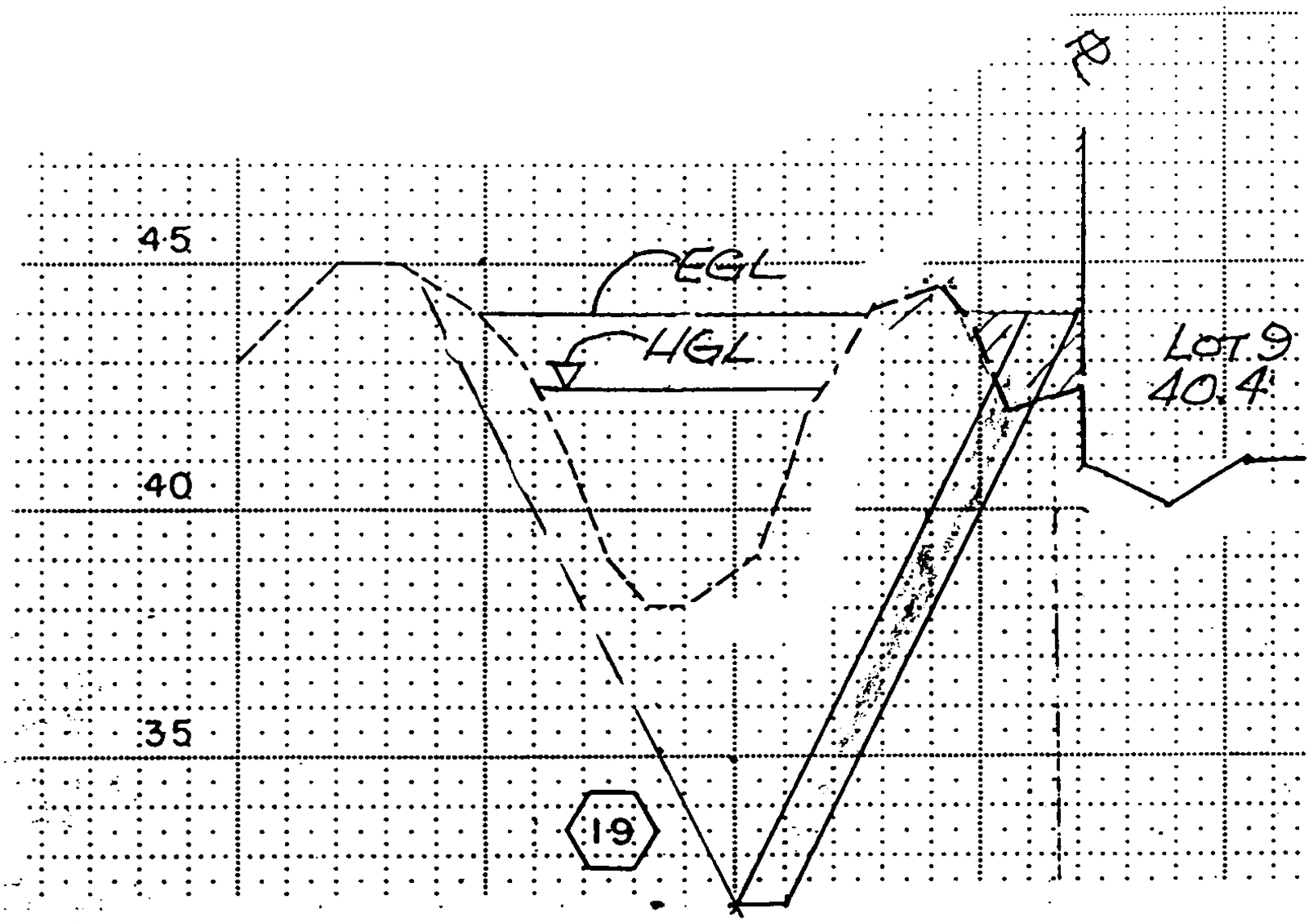

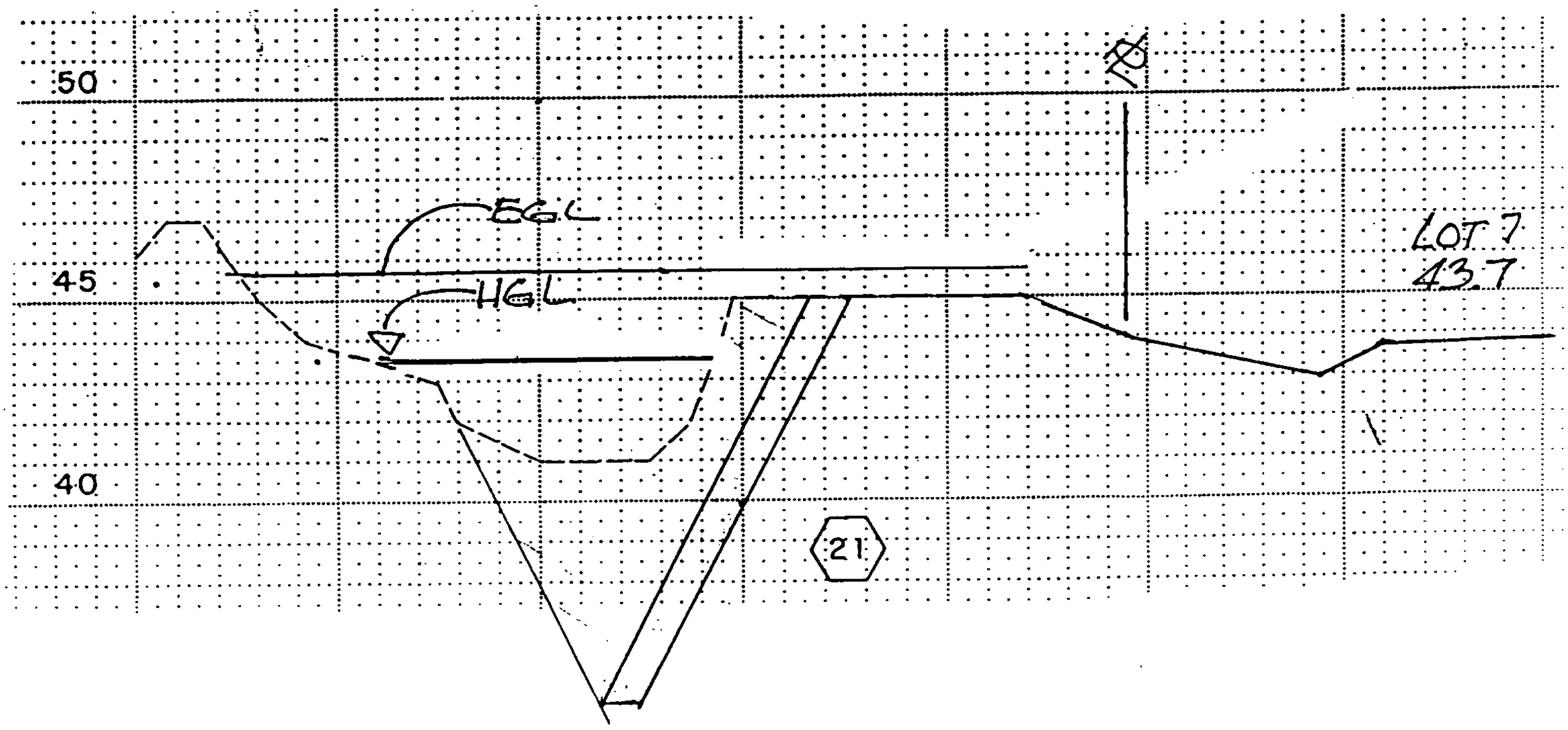

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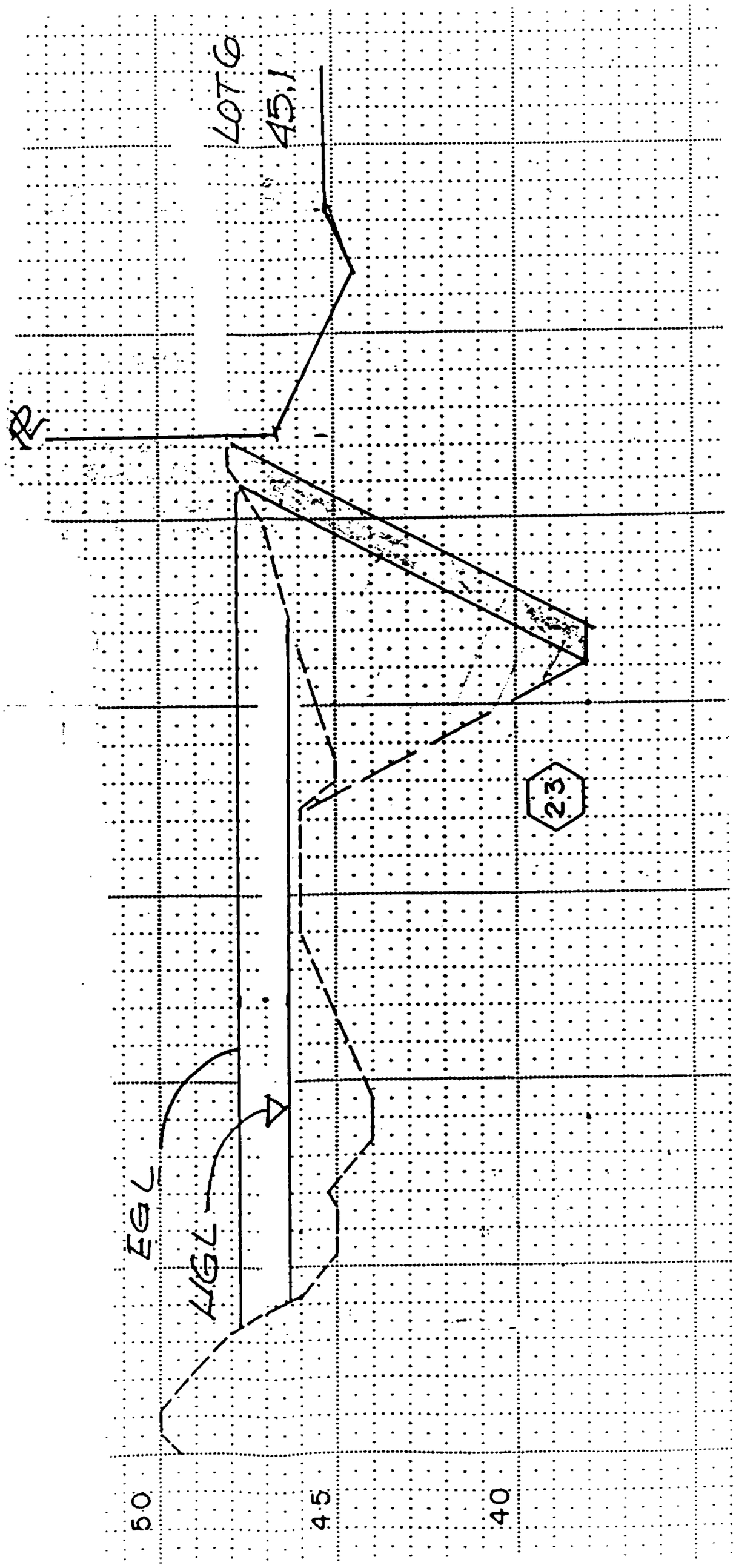

PROJECT NAME _____ SHEET _____ OF _____

PROJECT NO. _____ BY _____ DATE _____

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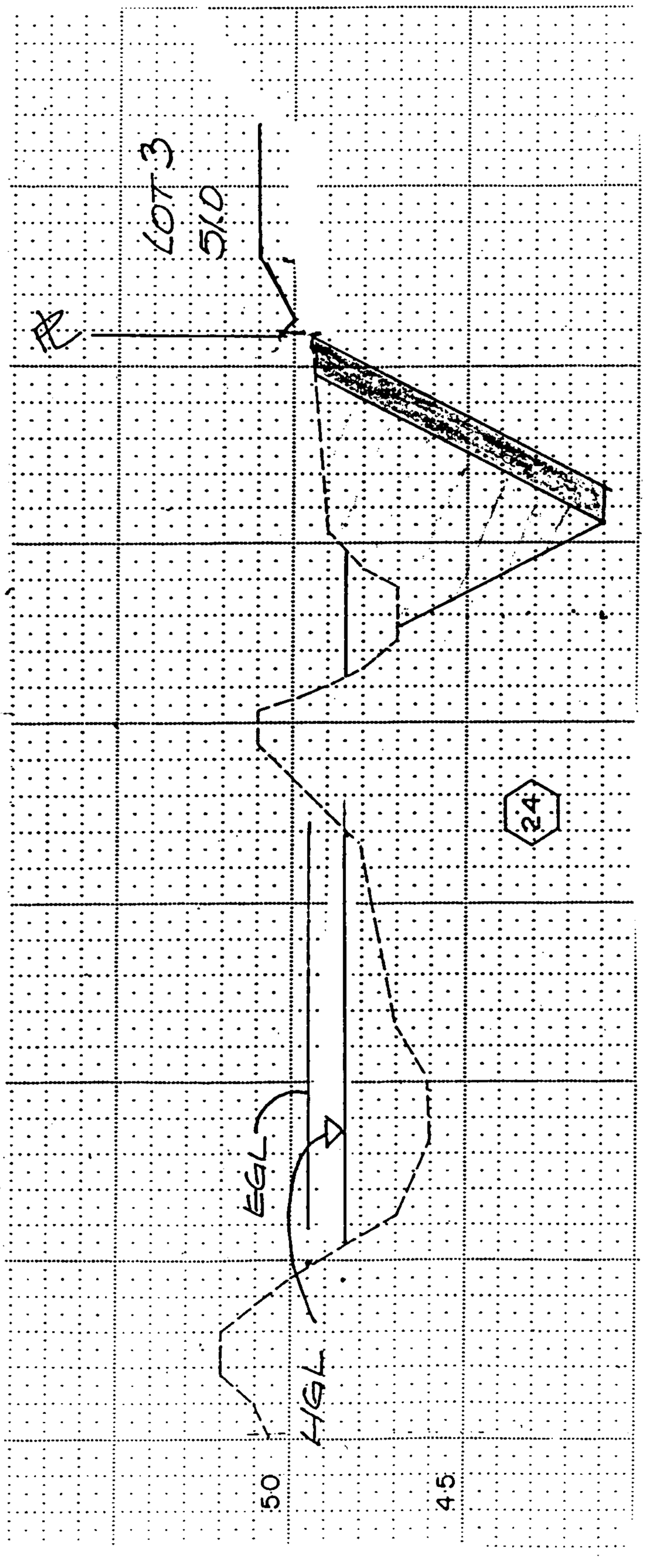
AVID ENGINEERING, INC.

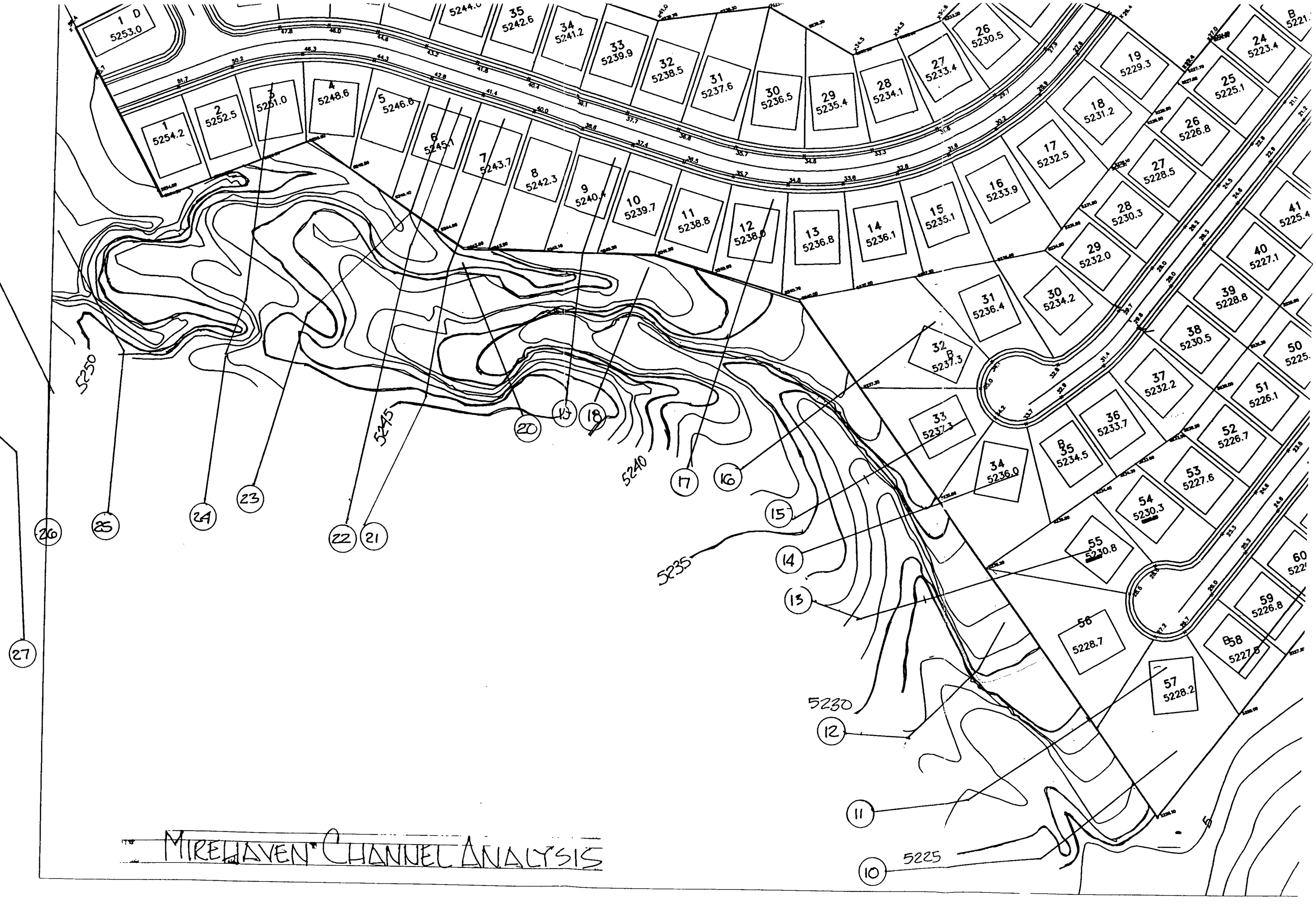


PROJECT NAME _____ SHEET _____ OF _____

PROJECT NO. _____ BY _____ DATE _____

SUBJECT _____ CH'D _____ DATE _____

MIRELHAVEN CHANNEL ANALYSIS



SCALE 1" = 200' HORZ.
1" = 10' VERT.

5270

5260

5250

5240

5230

5220

5210

5200

51.0

45.1

43.7

40.4

38.0

37.3

37.3

36.0

30.8

28.2

TOTAL ENERGY LINE

30 29 28 27 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7

LEFT BANK

C.L. CHANNEL

WATER SURFACE ELEV.

CROSS SECTION 23

APPENDIX B

SAMPLE EASEMENT AGREEMENT

MEMORANDUM OF UNDERSTANDING
between
AMAFCA
and
PRESLEY COMPANIES OF NEW MEXICO
regarding
"NO-BUILD" EASEMENTS ON LOTS IN LAS LOMITAS SUBDIVISION

Background

The purpose of this document is to clarify the intents and obligations of the parties, in order to assist with the safe and prudent development of property owned by the Presley Company of New Mexico, while delaying the permanent development of a portion of the property which may be subject to flooding based on a prudent line analysis of the adjacent Mirehaven Arroyo Tributary. The property has been the subject of a previous prudent line study prepared by Easterling and Associates, as well as an approved drainage plan, but recent meandering of the arroyo has initiated the owner and the approving authorities to revisit the previous plans.

In analyzing the alternatives available, it was decided that the prudent course of action would be to attempt to determine that portion of the approved area that may be subject to flooding over a 30 year horizon, assuming no structural improvements are made to the arroyo. The developer would agree to execute a legal agreement with the regulatory authorities that would preclude the construction of any buildings on any lots to be platted, until such time that structural improvements or other measures are implemented along the arroyo such that the regulatory authorities are satisfied that the reasonable expectation of arroyo flooding or migration onto the lots no longer exits.

The recent analysis indicates that a conservative expectation of meandering would endanger twenty (20) lots along the arroyo, as shown on Exhibit I. The engineering analysis indicated that the remainder of the subdivision would not be endangered by the arroyo over the time horizon, even without any improvements to the arroyo. Since it is likely that the developer or others will undertake improvements to the arroyo in this area in the near future, the Owner is has agreed to restrict the lots in question from any building activity until the required improvements are made. Since the approved plat is for all the lots shown, this restriction would be in the form of a easement or other encumbrance, rather than leaving the lots undivided. This option will allow building on the lots to proceed immediately upon completion of channel improvements to the satisfaction of AMAFCA, without the expense and time delay of preparing an additional subdivision process.

Agreement

Presley Companies agrees that simultaneously with the signing and filing of the plat for Las Lomitas Subdivision, Unit IIB, Presley Companies will execute and file a drainage easement on each of the referenced lots, in the form on the attached Exhibit II. This easement will restrict any building on the lots until such time that the easement is quitclaimed by AMAFCA. The easement grants AMAFCA access to the lots for maintenance of existing natural channels, but it grants no rights for the construction of permanent improvements.

AMAFCA agrees that the easements to be granted are exclusively to restrict any building for the purpose of limiting exposure to life and property from flooding. At such time that upstream of adjacent improvements eliminate the flood potential, AMAFCA agrees to release the easement by quitclaim deed to the owner, thus allowing construction of residences on the lots.

AGREED:

_____	_____
EXECUTIVE ENGINEER AMAFCA	PRESIDENT PRESLEY COMPANIES OF NM

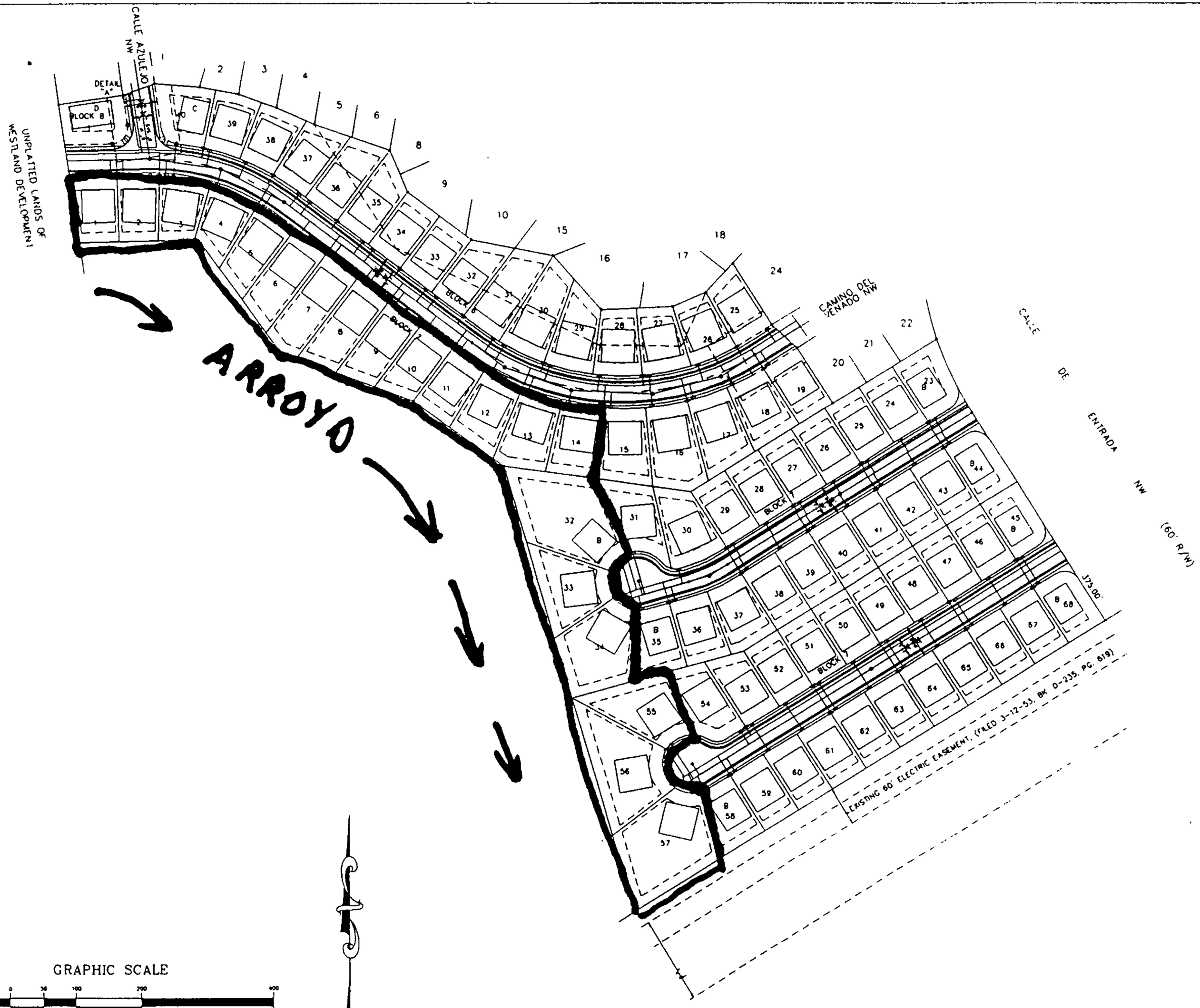

CALLE AZULEJO NW
DETAIL A
BLOCK 8
UNPLATTED LANDS OF WESTLAND DEVELOPMENT
ARROYO
CAMINO DEL VENADO NW
CALLE DE ENTRADA NW
(60' R/W)
375.00'
EXISTING 60' ELECTRIC EASEMENT, (FILED 3-12-53, BK D-235, PG. 619)
BLOCK
GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft

EXHIBIT I

EXHIBIT II

GRANT OF EASEMENT
FLOODWAY AND STORM DRAINAGE WORKS

Presley Companies of New Mexico, Grantor, being the owner(s) of the property described herein, for good and valuable consideration, the receipt of which is hereby acknowledged, does grant, bargain, sell and convey unto the ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY, a political subdivision of the State of New Mexico, (AMAFCA) and its successors and assigns, the right and easement for drainage, flood control and conveyance of storm water and the operation and maintenance of, and access to natural channels on, in, under, over and across the following described real estate:

The land in which the foregoing rights and easements are granted consists of the entire Lot 1 Block 1 Las Lomitas Subdivision Unit IIB in Bernalillo County, New Mexico and is more particularly shown in Exhibit "A" attached hereto and incorporated herein by reference.

Except by the written approval of AMAFCA, no fence, wall, building, or other obstruction may be placed or maintained in said easement. The granting of this easement shall not obligate AMAFCA to maintain natural arroyos, drainage channels, or facilities that do not meet the standards of AMAFCA for design, construction, and maintainability; nor shall this granting require the protection of property lying outside of the easement granted. AMAFCA shall only maintain property and/or improvements that it specifically agrees, by written agreement filed for public record, to maintain. Unless AMAFCA specifically agrees, by such written agreement, to maintain property and/or improvements, such maintenance responsibility shall remain with the Grantor, within the easement hereby conveyed shall not alter the present flowline, capacity, or permeability of the present flood way area, except in an emergency. If emergency work is performed, Grantor shall notify AMAFCA as soon as practical thereafter. AMAFCA will then determine if the emergency work can remain or must be removed or modified. Safe locations for structures built on lands adjacent to the rights and easements described herein may be substantially outside of the described area.

TO HAVE AND TO HOLD the said right and easement for the uses and purposes aforesaid, unto AMAFCA, its successors and assigns, forever, except that any portion of the easement granted herein **shall** revert to the Grantor, its successors or assigns, as and to the extent said portion is declared unnecessary for flood control or drainage by the Board of Directors of the Albuquerque Metropolitan Arroyo Flood Control Authority. Any reversion shall be conveyed by quitclaim deed.

THERE IS RESERVED to the Grantor, its successors and assigns, the right to use said lands for open space and landscaping. Such open space and landscaping shall not interfere with the rights and easements granted to AMAFCA. Other purposes, which will not interfere with the rights and easements hereby granted, may be permitted, provided that Grantor obtains AMAFCA's written licensed approval for such use, not to be unreasonably withheld.

WITNESS _____ hand(s) and seal(s) this ____ day of _____, 199___.

GRANTOR(S):

_____ _____

ACKNOWLEDGEMENT FOR CORPORATION

STATE OF NEW MEXICO)
) SS
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this ____ day of _____, 199___ by _____
(names)

_____ _____
Title

My Commission Expires:

_____ _____
Notary Public

(SEAL)

APPENDIX C

COST ESTIMATE

COST ESTIMATE
LAS LOMITAS SUBDIVISION - UNIT IIB

DRAINAGE ESTIMATE USING CITY PRICES

FEBRUARY 15, 1994

EXISTING 4CFS

ITEM #	ITEM	UNITS	UNIT PRICE	QUANTITY	AMOUNT
701.10	TRCHG, BF, & COMP. 18-36" SWR, <8'	LF	$11.00	500	$5,500
701.20	TRCHG, BF, & COMP. >36" SWR, <8'	IN-DIA LF	$0.55		
910.09	24" RCP III	LF	$26.00	260	$6,760
910.13	30" RCP III	LF	$38.00	180	$6,840
910.17	36" RCP III	LF	$46.00	160	$7,360
801.135	RES PVMT, R & R, W/O M	SY	$20.00	400	$8,000
XXXX	CATCH BASIN, ANY TYPE	EA	$2,200.00	6	$13,200
920.14	MH 6' DIA, 6'- 12' DEPTH	EA	$2,300.00	4	$9,200
XXXX	INCREASE POND	CF	$0.50	50,000	$25,000
	SUBTOTAL				81,860
	ADD 20% CONTINGENCIES				16,372
	TOTAL				$98,232

APPENDIX D

PROPOSED INFRASTRUCTURE LIST

D.R.B. Case No. 92-207
D.R.C. Project No. _____
Date Submitted 2/25/94
Submitted by AVID Engineering
By:_____

Figure II

EXHIBIT "D"
to Subdivision Improvements Agreement

DEVELOPMENT REVIEW BOARD (D.R.B.)
REQUIRED INFRASTRUCTURE LISTING
for LAS LOMITAS, UNIT IIB
for PRELIMINARY PLAT APPROVAL

MARCH 8, 1994

Following is a summary of Public/Private Infrastructure required to be constructed or financially guaranteed to be constructed for the above development.

PAVING	LOCATION	FROM	TO	DESCRIPTION
28' F-F Residential paving, curb & gutter,4' sidewalk (both sides)	Camino Del Aguila	Calle De Entrada	West End of Cul De Sac	Interior Residential streets
	Corte Del Viento	Calle De Entrada	West End of Cul De Sac	
32' F-F Residential paving, curb & gutter,4' sidewalk (both sides)	Camino Del Venado	100' west of Don Francisco	Drainage Pond at West End	Interior Residential streets

D.R.B. Case No. 92-207
D.R.C. Project No. _____
Date Submitted 2/25/94

PAVING (CONT)	LOCATION	FROM	TO	DESCRIPTION
4' Sidewalk West Side . Non-Erosive Landscape Strip (Both Sides)	Calle De Entrada	Camino Del Venado	Drainage Pond	

Residential Street Lights as per DPM

UTILITIES

6" Waterline and 8" Sanitary Sewer	Camino Del Venado	Calle De Entrada	Drainage Pond	Interior Residential Water and Sanitary Sewer
	Camino Del Aguila	Calle De Entrada	West End of Cul De Sac	
	Corte Del Viento	Calle De Entrada	West End of Cul De Sac (Easement)	

STORM SEWER	LOCATION	FROM	TO	DESCRIPTION
24" Storm Sewer.	Calle de Entrada	Camino Aguila	100' south	Outfall Storm Drain
30" Storm Sewer.	Calle de Entrada	100' south of Camino Aguila	Corte del Viento	Outfall Storm Drain
36" Storm Sewer. Inlet and outlet structure	Calle de Entrada	Corte del Viento	Pond	Outfall Storm Drain

EXHIBIT "D"
Page 3

D.R.B. Case No. 92-207
D.R.C. Project No._____
Date Submitted2/25/94
Submitted by AVID Engineering

STORM SEWER	LOCATION	FROM	TO	DESCRIPTION
Increse pond volume by 50,000 cubic feet.	Existing pond			Includes soil-cement and outlet.

NOTES:
1) Waterlines include valves, fittings and services.
2) Sanitary Sewer lines include manholes and services.
3) Storm drains include manholes, inlets and connector pipe.
4) Certification for Grading includes retaining walls and private drainage improvements required for financial guarantee release. Financial guarantees are not required for these items.

D.R.B. Case No. 92-207
D.R.C. Project No. _____
Date Submitted 2/25/94

LAS LOMITAS UNIT IIB
INFRASTRUCTURE LIST
MARCH 8, 1994
FOR PRELIMINARY PLAT APPROVAL

Approved on _____, by the Development Review Board

_____

Planning Department Date

_____

Utility Development Division, City Engineer Date

_____

Transportation Development Division, Traffic Engineer Date

_____

Parks and Recreation Department Date

_____

City Engineer/AMAFCA Date

DEVELOPMENT & BUILDING SERVICE CENTER
ONE STOP SHOP
600 SECOND ST. N.W.

ATTENTION: _____

505-924-3900

Records Withdrawal Form

Project No. H9 / D1E **Date:** 8/10/06

Project Title: Las Lomitas Sub. / Unit IIB

a. File b. Mylars c. Redlines/Comments

d. Other Report

Requested by: Shahab / Advance Eng **Phone No.:** 899-5570
Name and Company

Comments:

_____

_____

_____

Anticipated Return Date: 8/17/06

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: _____ **Organization:** Academy Repro.
Print

Signed: _____ **Date:** 08-11-06
Academy Repro

Office Use Only

Return Acknowledged:

Received By: Sandy Handley **Date:** 08/14/06
Print

55.205 ac.

EXISTING
INTERIM FLOOD PLAIN
DRAINAGE EASMT. LIMITS
AS DEDICATED BY PLAT
OF TRACT A OF EL RANCHO
ATRISCO PHASE V FILED
8/18/87 VOLUME C-33, FOLIO 436

PREVIOUS LOT LINE

Existing Public Edge Easmt.
Per Instrument (Civil Action No. C-3 Public Service

Tract A-2-a
44.538 ac.

UNPLATTED LANDS
OF WESTLAND DEV.

LADERA CHANNEL

PUBLIC UTILITY EASEMENTS

PUBLIC UTILITY EASEMENTS shown on this plat are ten(10) feet wide and are granted for the common and joint use of:

No.
A
B
C
D
E
F

1. Distances shown are ground distances.

2. Bearings and distances in parentheses are record bearings and distances.

4. 5 ⅝" rebar w/ cap stamped Greiner PS #8324 to be set at all property corners on the Unser Blvd. & 98th R/W lines following the recording of this plat.

5. The land shown hereon is zoned: R-D

DISCLOSURE STATEMENT:

This replat was prepared for the purpose of dividing a portion of El Rancho Atrisco, Phase II as the same is shown and designated on said unrecorded annexation plat prepared by DPM & Associates, Inc., for the purpose of dedicating additional right-of-way for Unser Blvd., N.W. & 98th St., N.W.

NOTE:

This plat has been prepared pursuant to current resolutions and ordinances, where applicable, of the City of Albuquerque. However, be advised that approval(s) of this plat does not imply that City owned and operated water and sanitary sewer service is readily available for development, nor does it obligate the City to make these services available if and when development is desired. Further subdivision(s) of this property, if any, must comply with those resolutions, ordinances, and policies then in effect for any specific proposal. The plat herein approved does not represent any acceptance of, or concurrence with, future subdivision or development proposals.

CERTIFICATION

I, Daniel L. Morehead, New Mexico Registered Land Surveyor No. 8324, do hereby certify that this plat was prepared under my supervision, that no field work was performed to determine the boundary location, that this plat shows all easements of record and meets the minimum requirements of the Albuquerque Subdivision Ordinance and is true and correct to the best of my knowledge and belief.

Daniel L. Morehead
N.M.R.L.S. No. 8324

12-1-86
Date

State of New Mexico)
) ss.
County of Bernalillo)

The foregoing instrument was acknowledged before me this 1st day of December, 1986 by Daniel L. Morehead.

OFFICIAL SEAL
CYNTHIA L. ANDERSON
NOTARY PUBLIC
STATE OF NEW MEXICO
My commission expires: 8/24/88

Notary Public

ENTERED
JAN 17 1987
ROW-RMS

MAP #

left whose radius is 291.55 feet and whose chord bears S 77° 15' 37" E, 9.99 feet; thence 9.99 feet along a curve to the right whose central angle of 01° 57' 55" thence 100.35 feet along a curve to the right whose radius is 291.55 feet and whose chord bears S 66° 43' 30" E, 99.85 feet; thence S 56° 43' 30" E, 79.76 feet; thence 166.56 feet through a central angle of 32° 40' 00" Southerly R/W line of 98th St.; thence along said R/W line the following four (4) courses:

1) 836.00 feet along a curve to the right whose radius is 4560.13 feet and whose chord bears S 83° 18' 55" E, 834.82 feet through a central angle of 05° 26' 00";

2) thence S 88° 31' 55" E, 850.00 feet;

3) thence 802.94 feet along a curve to the right whose radius is 2852.16 feet and whose chord bears S 86° 29' 33" E, 800.39 feet through a central angle of 11° 56' 00";

4) thence N 87° 32' 27" E, 431.21 feet;

thence 6.39 feet along a curve to the right whose radius is 80.00 feet and whose chord bears S 46° 00' 32" E, 57.66 feet through a central angle of 92° 03' 01" to the Point of Beginning of the tract herein described and containing 97.819 acres (4,260,759 sq. ft.), more or less.

DEDICATION

The replat shown hereon is with the free consent of and in accordance with the desires of the undersigned owner and/or proprietor of the land shown hereon and said owner and/or proprietor does hereby dedicate the 0.0011 acre parcel as shown as R/W for the intersection of Unser/98th Street and said owner and/or proprietor does hereby grant all easements as shown hereon.

PUBLIC UTILITY EASEMENTS shown on this plat are ten (10') feet wide and are granted for the common and joint use of:

A. The Public Service Company of New Mexico for the installation, maintenance and service of underground electrical lines, transformers, and other equipment and related facilities reasonable necessary to provide electrical service.

B. Mountain Bell for the installation, maintenance and service of all buried communication lines and other related equipment and facilities reasonable necessary to provide communication services, including but not limited to above ground pedestals and closures.

Additional PNM easements may be required to serve future customers. These easements shall include minimum working space requirements for single and three phase transformers. See Public Service Company of New Mexico (PNM) Distribution Standard Drawing DS-7-16.2 for details.

Dedication to the Albuquerque Metropolitan Arroyo Flood Control Authority, its successors and assigns, of the lands, right-of-way or easement designated hereon as an interim drainage easement, is with the full and free consent and in accordance with the desire of the undersigned owner. This dedication is for drainage, flood control, and the construction operation, and maintenance of and access to such facilities. Any portion of any lands, right-of-way, or easement dedicated or granted herein shall revert to the owner, its successors and assigns as and to the extent said portion is declared unnecessary for flood control and drainage by the Board of Directors of the Albuquerque Metropolitan Arroyo Flood Control Authority. Any reversion shall be conveyed by quitclaim deed.

WESTLAND DEVELOPMENT CO., INC.

G.E. Cordova, Pres.

1/12/87
Date

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 12 day of January 198 7, by G.E. Cordova on behalf of said corporation.

Notary Public

My commission expires:

8/24/88

Design
Drawn LRA
Check JPW
Scale
Date 12-1-86
Job No 0641057
Sheet 1 of 2

at a point on the Westerly R/W line of Unser Blvd. NW, ...
ZACS Brass Cap Station "UU-39 bears S38 22'54"E a distance of 912.10 ...
n a line from said beginning point along the Westerly R/W line of Unser ...
13°50"E, 646.49 feet to a point of curve on said R/W line, said curve ...
Delta of 06 01'40" bearing to the left, (Radius=1470.00', Chord Bearing ...
'54"E, Chord=155.49 feet); thence along the Arc a distance of 155.56 ...
nt on the Northerly R/W line of an existing 60 foot wide Plains ...
asement; thence S57 54'27"W along said R/W line a distance of 1430.45 ...
point on the Easterly line of the Interim Flood Plain as shown on the ...
l Rancho Atrisco Phase V, filed 2/12/87 in Volume C-32, folio 184, ...
ngsaid line on the following courses, N15 51'19"W a distance of 708.50 ...
nce N31 50'11"W a distance of 168.97 feet; thence N50 35'26"W a distance ...
feet; thence N35 39'52"W a distance of 210.34 feet; thence S88 39'58"W ...
e of 180.03 feet; thence leaving said interim flood plain, N08 19'34"W ...
e of 761.53 feet to a point on the Southerly R/W line of 98th Street NW, ...
t being a point on curve, said curve having a Delta of 05 26'44" bearing ...
ght, (Radius=4546.13 feet, Chord Bearing of S83 15'22"E, Chord=431.9) ...
nce along the Arc a distance of 432.08 feet to a point of tangent; ...
0 32'00"E a distance of 450.00 feet to a point of curve, said curve ...
Delta of 11 56'00" bearing to the left, (Radius=3855.16 feet, Chord ...
E S86 30'00"E, Chord=801.49 feet); thence along the Arc a distance of ...
et to a point of tangent; thence S87 32'00"E a distance of 410.41 feet ...
t of curve, said curve having a Delta of 92 14'03" bearing to the right ...
0.00 feet, Chord Bearing of S46 20'58"E, Chord=86.49 feet); thence ...
Arc a distance of 96.52 feet to the true point and place of beginning.

g 51.265 acres more or less.

DESCRIPTION TRACT A-2-a

ract or parcel of land lying and being situate within Projected ...
9,16, 17 Township 10 North, Range 2 East, N.M.P.M., and within the ...
isco Grant, being a portion of Tract A-1 and A-2 of the Replat of ...
e V of Phase V of El Pancho Atrisco, filed in the office of the ...
of Bernalillo, in Volume C11, Folio 75, on August 3, 1987, being ...
rly bounded and described as follows to wit:

The Southeasterly corner of said tract or parcel of land, said corner ...
oint being on the Westerly R/W line of Unser Blvd. NW, and from whence ...
Cap Station "UU-110" bears N31 55'39"E a distance of 577.33'; thence ...
a distance of 50.00 feet, to a point of curve, said curve having a ...
29'30" bearing to the left, (Radius=1272.00 feet, Chord Bearing of ...
Chord=668.97 feet); thence along the Arc a distance of 676.93 feet ...
of curve, said curve having a Delta of 01 44'52" bearing to the left, ...
W, feet, Chord Bearing of N28 58'18"W, Chord=46.61 feet; thence ...
e a distance of 46.61 feet; thence S56 47'31"W a distance of 908.60 ...
oint of curve, said curve having a Delta of 20 26'53" bearing to the ...
lus=463.48 feet, Chord Bearing of S 56°29"W, Chord=164.57 feet); ...
g the Arc a distance of 165.44 feet to a point of curve, said curve ...
lta of 21 11'29" bearing to the left, (Radius=291.25 feet, Chord ...
46 31'11"W, Chord=107.27 feet); thence along the Arc a distance of ...
thence N56 50'58"W a distance of 84.52 feet; thence S56 43'01"W ...
thence N33 16'57"W, 45.00 feet; thence S56 43'03"W, 30.00 feet; ...
16'57"E 45.00 feet; thence S56 43'03"W, 25.00 feet; thence S48 38'02"E, ...
to a point of curve, said curve having a Delta of 01 57'55" bearing ...
, (Radius=291.25 feet, Chord Bearing of S37 15'10"W, Chord=9.99 feet); ...
the Arc a distance of 9.99 feet to a point of curve, said curve ...
lta of 20° 6'55", bearing to the right, (Radius=461.58 feet, Chord ...
S46 79'38"W, Chord=164.56 feet); thence along the Arc a distance of ...
, thence S56 43'03"W a distance of 292.76 feet; thence N08 19'34"W, ...
to a point on the Northerly line of an Interim Flood Plain, filed ...
rd of the County Clerk of Bernalillo County, on Feb 12 1987, in ...
184; thence along said Interim Flood Plain on the following ...
30'58"E 80.03 feet; thence S15 30'58"E, 210.34 feet; thence ...
.25 feet; thence S53 00'31"E 168.27 feet; thence S15 5.'19"E, ...
to a point on the Northerly R/W line of a Plains Electric easement; ...
56'27"E along said R/W line a distance of 1430.45 feet to a point on ...
R/W line of Unser Blvd. NW, being a point on curve, said curve ...
lta of 23 34'45" bearing to the left, (Radius=1470.00 feet, Chord ...
56' 47'56"E, Chord=604.04 feet); thence along the Arc a distance of ...
to a point of curve, said curve, said curve having a Delta of 30 29' ...
to the right, (Radius=1272.00 feet, Chord bearing of S34 35'59"E, ...
feet; thence along the Arc a distance of 161.68 feet to the true ...
and place of beginning.

...

SEP 25 1987

C34
162

BERNALILLO, COUNTY, NEW MEXICO

AUGUST 1987

A variance or waiver from certain subdivision requirements has been granted by the City of Albuquerque and the Albuquerque Metropolitan Arroyo Flood Control Authority in connection with this Plat.

Future subdivision of land within this Plat, zoning site development approvals, and development permits may be conditional upon dedication of rights-of way- and easements, and/ore upon infrastructure Improvements by the owner for water, sanitary sewer, streets, drainage, grading and parks in accordance with current resolutions, ordinances and policies in effect at the time for any specific proposal.

The City (and AMAFCA with reference to drainage) may require and/or permit easements to be added, modified or removed whence future plats or site development plans are approved.

By its approval the City makes no representation or warranties as to availiability of utilities, or final approval of all requirements including, (but not limited to) the following items: water and sanitary sewer availiability; future street dedication and/or improvements; park and open space requirements; drainage requirements and/or improvements; and excavation, filling or grading requirements. Any person intending development of lands within this subdivision is cautioned to investigate the status of these items.

IT IS UNDERSTOOD THAT A SEPARATE NOTICE OF THESE CONDITIONS IS TO BE RECORDED WITH THE COUNTY CLERK AT THE TIME OF FINAL PLAT RECORDING.

MS 538A pg 476-477 9/25/87

FREE CONSENT
THAT SAID OWNERS HAVE CAUSED SAID REAL PROPERTY TO BE REPLATTED, AND THAT SAID REPLAT IS WITH THE WITH THE FREE CONSENT OF AND IN ACCORDANCE WITH THE WISHES AND DESIRES OF SAID OWNERS.

Gil E. Cordova GEO for Westland Developments Inc.

The foregoing instrument was acknlwledged before me this 19th day of August 1987.

Notary Public

My commission espires 10/22/88

[redacted]

AVID ENGINEERING, INC.

DRAINAGE REPORT UPDATE
FOR
LAS LOMITAS SUBDIVISION - UNIT II

RECEIVED
JUL 21 1992
HYDROLOGY DIVISION

PREPARED FOR:

THE PRESLEY COMPANY

ALBUQUERQUE, NM 87111

PREPARED BY:

AVID ENGINEERING, INC.
6100 SEAGULL LANE NE
SUITE 102
ALBUQUERQUE, NM 87109

JULY 1992

TABLE OF CONTENTS

	PAGE
INTRODUCTION AND PROJECT DESCRIPTION	1
PURPOSE AND SCOPE	1
SITE LOCATION AND DESCRIPTION	1
EXISTING DRAINAGE CONDITIONS	1
DESCRIPTION OF PROPOSED CHANGES	4
SUMMARY	11
RECOMMENDATIONS	11
REFERENCES	12

LIST OF FIGURES AND EXHIBITS

FIGURE I	VICINITY MAP
FIGURE II	REVISED PHASING PLAN
FIGURE III	INTERIM DRAINAGE PLAN FOR UNIT II
TABLE I	APPROVED DEVELOPED FLOWS AT ANALYSIS POINTS (FROM APPROVED DRAINAGE PLAN)
TABLE II	TABLE OF OLD & NEW STREET NAMES
TABLE III	REVISED DEVELOPED FLOWS
TABLE IV	STREET CAPACITIES, FLOWS AND DEPTHS
EXHIBIT I	APPROVED DRAINAGE PLAN FOR PHASE I
EXHIBIT II	APPROVED DRAINAGE PLAN FOR FULL DEVELOPMENT
EXHIBIT III	PROPOSED REVISIONS TO DRAINAGE PLAN
EXHIBIT IV	REVISED GRADING PLAN FOR PHASE II
EXHIBIT V	REVISED GRADING PLAN FOR PHASE II
EXHIBIT VI	GRADING PLAN FOR DETENTION POND

INTRODUCTION AND PROJECT DESCRIPTION

This report is an update to the drainage report for Las Lomitas subdivision. Las Lomitas is a residential development of approximately 54 acres, which currently has its first phase under construction. The remainder of the project will be developed in two additional phases. The development is on Albuquerque's West Mesa as shown on Figure I (Vicinity Map). It will consist of approximately 244 single family (R-1) lots when fully developed.

PURPOSE AND SCOPE

The purpose of this Drainage Report Update is to describe proposed revisions to the approved drainage plan for the subdivision. The approved drainage report was prepared by Brasher Engineering, and was called by the previous name of the subdivision: "Drainage Report for La Merced de Atrisco". The reason for the proposed changes is that the developer wishes to change the staged development of the project from two phases to three phases of construction. The approved plan considered interim measures based on two phases only. In order to change the construction, some minor changes in the interim drainage protection will be needed, since not all facilities will be complete at the end of the second phase.

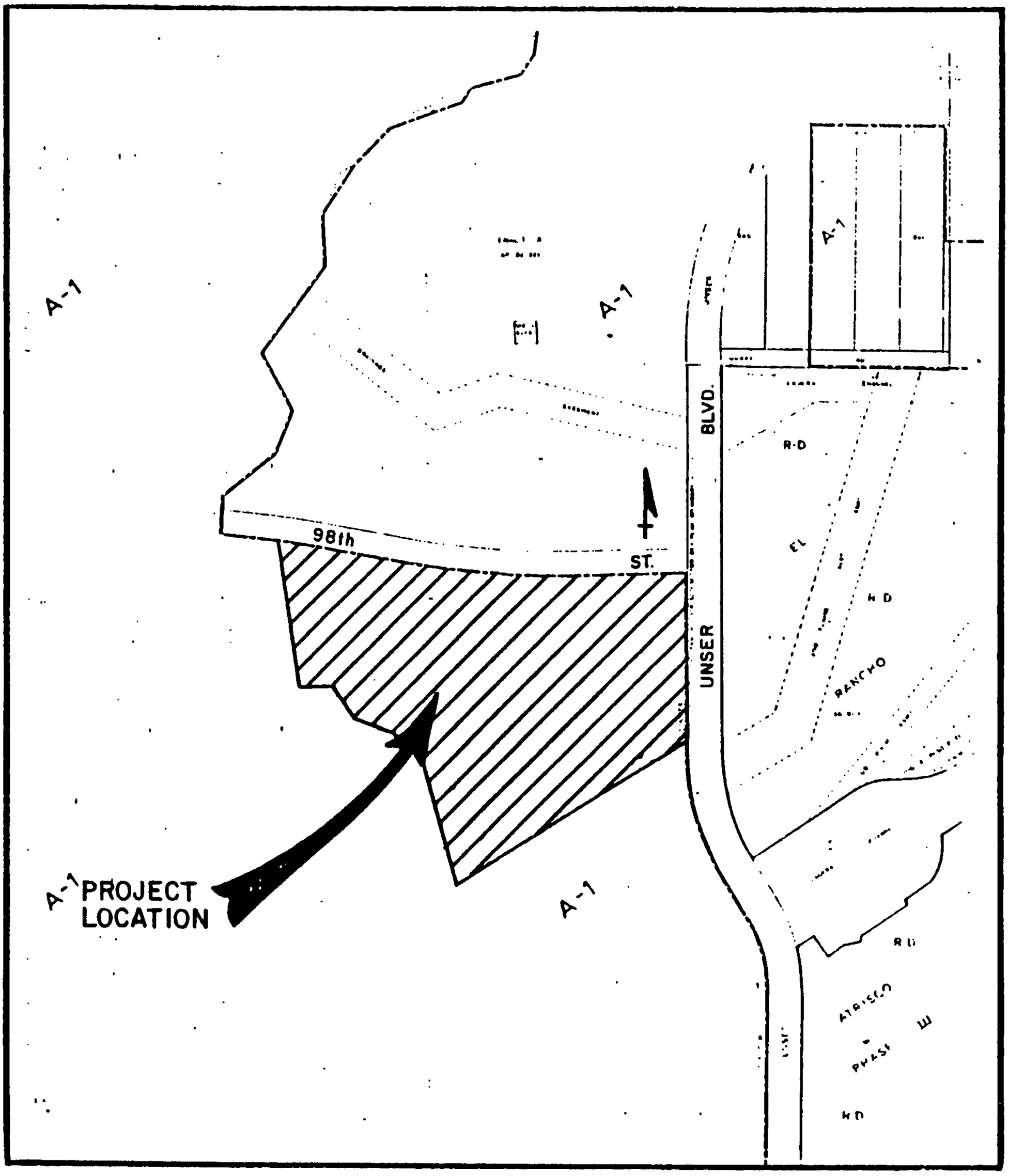
This report describes the proposed changes to the plan to handle both the on-site and off-site runoff for three phases of construction. The original first phase (Unit I) is currently under construction. (See Sheet I of the Las Lomitas Drainage Report). The remainder is now proposed to be constructed as Phases II and III, as shown in Figure II in this report.

SITE LOCATION AND DESCRIPTION

Las Lomitas is located at the southwest corner of 98th Street and Unser Boulevard on Albuquerque's West Mesa (Zone Atlas Sheet H-9). It is bounded on the west by undeveloped land owned by Westland Corporation, and on the south by vacant land and by the Ladera Drainage System. For a complete description of the site, please refer to the approved drainage report for Las Lomitas subdivision.

EXISTING DRAINAGE CONDITIONS

As stated earlier, Unit I is currently under construction, generally in accordance with the approved grading and drainage plan. The berm and embankment along the west side of the work has been constructed according to the plan and seems to be functioning well in its capacity as protection from upstream drainage. Exhibit I in the back of this report shows the facilities approved and constructed with Unit I.



VICINITY MAP

SCALE : 1" = 800'

H-9

Figure 1

PH II - 96 LOTS

PH I
66 Lots

PH III
82 LOTS

REVISED PHASING PLAN

FIGURE II

During construction, there has been one deviation from the approved plan for Unit I one of which we are aware.. During the grading of Unit I, there was excess unanticipated cut, and the soil was stockpiled in the proposed Unit III area. The stockpiles consist of berms approximately 15 feet high, located along the future cul-de-sacs in Unit III. They are not currently vegetated or otherwise protected from erosion. The location of the stockpiles is shown in Figure III, and the proposed remediation of them is addressed in this plan update.

All other existing drainage conditions are described in the approved drainage plan for Las Lomitas.

DESCRIPTION OF PROPOSED CHANGES TO THE APPROVED DRAINAGE PLAN

Figure II shows the proposed new phasing of the development. This splitting of the remaining portion of the project requires minor changes to the basins at the west edge of the property. The reader is referred to the approved drainage report, especially the plate showing the complete drainage plan (Sheet 3 of 4) and the table of developed discharges. Copies of both of these are included in this report for convenience. The complete drainage plan from the Brasher report is called Exhibit II in this report, and the table of discharges is called Table I.

The reader should also note that several of the street names in this subdivision have changed since the time of the submittal of the original drainage report. for ease of reference in this update, the streets will be referred to by both their old and new names, separated by a slash (/). The old name is shown first (abbreviated) followed by the new name. Table II is a listing of the streets with new names, including their old name and the reference name used in this report.

Since the new phasing will not include the construction of Rancho Estero/Venado Road, all runoff which was planned to use that street for conveyance will have to be handled differently, until Unit III is constructed. The two areas this affects are the discharge from the detention facility on Westland's property,and the developed runoff from Basin 5.

We propose to regrade Reconquista/Azulejo Street in such a manner that the runoff from Basin 5 will flow east on Don Francisco Avenue rather than down Rancho Estero/Venado Road. Don Francisco has adequate capacity to carry these flows. This change will add an additional 5 cfs to the previously calculated 25 cfs at Analysis Point 4. The curb and gutter design in this area has been changed from mountable to standard, so the street section can carry the flows. See Table III in this update for a summary of revised flows and street capacities. Exhibit III shows the revised basins which will result from this change. The existing approved plan is included for comparison as Exhibit II.

TABLE I

LA MERCED DE ATRISCO
HYDROLOGY
FULLY DEVELOPED CONDTION

AP	Basin	Area (ac)	Length (ft)	Ht (ft)	TC (min)	I100 (in/hr)	C	CN	R 10 (in)	R100 (in)	Q 10 (cfs)	Q 100 (cfs)	V 10 (cf)	V 100 (cf)
1	1	7.2	1400	34	10	4.65	0.64	82	0.30	0.75	14.1	21.4	7841	19602
2	2	4.0	670	17	10	4.65	0.64	82	0.30	0.75	7.8	11.9	4356	10890
3	3	2.8	420	5	10	4.65	0.64	82	0.30	0.75	5.5	8.3	3049	7623
4	4	1.6	500	9	10	4.65	0.64	82	0.30	0.75	3.1	4.8	1742	4356
5	5	2.0	500	7	10	4.65	0.64	82	0.30	0.75	3.9	6.0	2178	5445
6	6	7.1	1250	26	10	4.65	0.64	82	0.30	0.75	13.9	21.1	7732	19330
7	7	0.4	190	7	10	4.65	0.64	82	0.30	0.75	0.8	1.2	436	1089
8	8	2.5	850	4	11	4.43	0.64	82	0.30	0.75	4.7	7.1	2723	6806
9	9	4.3	760	22	10	4.65	0.64	82	0.30	0.75	8.4	12.8	4683	11707
10	10	4.6	830	16	10	4.65	0.64	82	0.30	0.75	9.0	13.7	5009	12524
11	11	0.9	250	3	10	4.65	0.64	82	0.30	0.75	1.8	2.7	980	2450
2	12	0.6	230	1	10	4.65	0.64	82	0.30	0.75	1.2	1.8	653	1634
3	13	2.6	470	4	10	4.65	0.64	82	0.30	0.75	5.1	7.7	2831	7079
14	14	2.9	550	11	10	4.65	0.64	82	0.30	0.75	5.7	8.6	3158	7895
15	15	4.1	800	10	10	4.65	0.64	82	0.30	0.75	8.0	12.2	4465	11162
6	16	3.2	500	15	10	4.65	0.64	82	0.30	0.75	6.3	9.5	3485	8712
17	17	18.2	1500	26	10	4.65	0.40	70	0.10	0.35	22.2	33.9	6607	23123
18	18	15.0	1900	48	11	4.43	0.60	82	0.30	0.75	28.2	39.9	16335	40838
9	19	1.1	660	2	11	4.43	0.80	88	0.50	1.20	1.9	2.9	1997	4792
20	20	2.3	1540	36	10	4.65	0.60	88	0.50	1.20	4.2	6.4	4175	10019
21	21	0.5	320	8	10	4.65	0.60	88	0.50	1.20	0.9	1.4	908	2178
22	22	0.9	260	4	10	4.65	0.60	88	0.50	1.20	1.6	2.5	1634	3920
23*	A											5795		
24	24	0.3	420	2	10	4.65	0.95	95	1.00	1.70	0.9	1.3	1089	1851
25	25	0.4	500	12	10	4.65	0.95	95	1.00	1.70	1.2	1.8	1452	2468
6	5,6	8.1	1600	33	10	4.65	0.64	82	0.30	0.75	17.8	27.1	9910	24775
3	2,3	6.8	690	24	10	4.65	0.64	82	0.30	0.75	13.3	20.2	7405	18513
4	2-4	8.4	1090	32	10	4.65	0.64	82	0.30	0.75	16.4	25.0	9148	22869
7	2-7	17.9	1730	37	11	4.43	0.64	82	0.30	0.75	33.3	50.8	19493	48733
8	1-8	27.6	1930	39	12	4.24	0.64	82	0.30	0.75	49.2	74.9	30056	75141
11	1-9,11	32.8	2180	41	13	4.07	0.64	82	0.30	0.75	56.1	85.4	35719	89298
.2	1-12	38.0	2350	42	14	3.92	0.64	82	0.30	0.75	62.6	95.3	41382	103455
.4	13,14	5.5	870	14	10	4.65	0.64	82	0.30	0.75	10.8	16.4	5990	14974
15	13-15	9.6	970	15	10	4.65	0.64	82	0.30	0.75	18.8	28.6	10454	26136
19	13-15, 19	10.7	1320	16	11	4.43	0.64	82	0.30	0.75	18.9	30.3	11652	29131
24	13-15, 19,24	11.0	1740	18	14	4.23	0.66	83	0.35	0.80	20.2	30.7	13976	31944
25	13-15, 19,24 25	11.4	2240	30	16	4.06	0.67	84	0.40	0.80	20.4	31.0	16553	37244
21	20,21	2.8	1860	44	11	4.43	0.66	88	0.50	1.20	5.4	8.2	5082	12197
22	20-22	3.7	2120	48	12	4.24	0.68	88	0.50	1.20	6.8	10.4	6718	16117
12.	1-12,18	53.0	4550	71	25	2.91	0.64	82	0.30	0.75	64.9	98.7	57,717	144,29

* From "Conceptual Grading and Drainage Plan for El Rancho Atrisco Phase V"

TABLE II

CROSS REFERENCE FOR STREET NAMES

OLD NAME	NEW NAME	NAME USED IN THIS REPORT
Reconquista Street	Calle Azulejo	Reconquista/Azulejo
Diego Montoya Ave.	Camino Paisano	Diego Montoya/Paisano
Rancho Estero Road	Camino del Venado	Rancho Estero/Venado
Atrisquenos Street	Calle de Entrada	Atrisquenos/Entrada

TABLE III

REVISED DEVELOPED FLOWS

AP	PREVIOUS BASINS	PREVIOUS Q100 (CFS)	REVISED BASINS	REVISED Q100 (CFS)
18	B	4.0	B	4.0
5	B, 5	10.0	N/A	N/A
5A	N/A	N/A	B, 5A	9.0
2	2	11.9	B, 5A, 2	20.9
3	2,3	20.2	B, 5A, 2, 3	29.2
4	2-4	25.0	B, 5A, 2-4	34.0
7	2-7	50.8	B, 5A, 2-7	54.8
8	1-8	74.9	B, 5A, 1-4, 6-8	78.9
11	1-9, 11	85.4	B, 5A, 1-4, 6-9, 11	89.4
12	1-12, 18	98.7	B, 5A, 1-4, 6-9, 11, 12	98.7

The outflow from the temporary detention pond will also be redirected to Don Francisco Street on a temporary basis until Unit III is completed. Since the Unit II project will end near the outfall of the temporary pond, we will redirect the outlet to the street there. A temporary turnaround will be needed at the end of Reconquista/Azulejo Street for automobile access. Normally, this would not require paving, but we propose constructing temporary pavement with asphalt curb to redirect the pond outflow north to Don Francisco Street. See Figure III for a schematic of the interim plan, and Exhibit VI for a drawing of the turnaround.

When Unit III is constructed, the turnaround will be removed and the new road will be graded with a waterblock to direct the pond runoff east on Reconquista/Azulejo in accordance with the original plan.

Both Don Francisco Street and Reconquista/Azulejo Street have adequate capacity for the redirected flows, as shown in Table III.

The approved plan for Las Lomitas (Unit I) includes the existing drainage diversion along Atriquenos/Entrada Street. This berm will remain in place from Rancho Estero/Venado Street south to the pond until Unit III is constructed. The diversion will direct undeveloped runoff from the future Unit III to the pond in exactly the same fashion it does now.

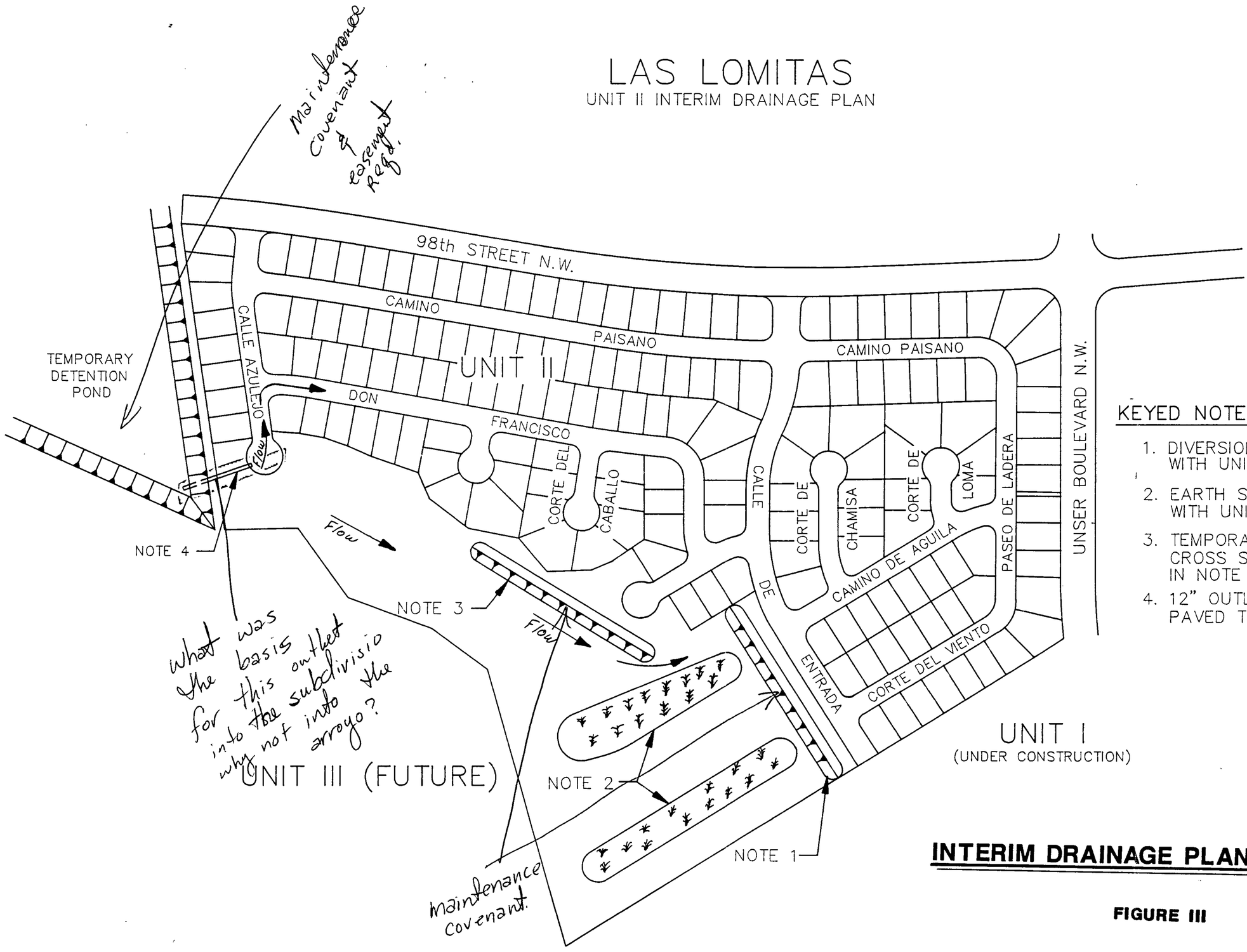
Since some of the area included in the future Unit III drains naturally to the area in Unit II, these flows will be redirected with a small diversion leading to the existing diversion along Atrisqueos/Entrada. This diversion will be a small berm of the same cross section as that used in on the existing diversion along Atrisquenos/Entrada. The location of the berm is shown on Figure III. It is also shown on the revised grading plans for Unit II included as Exhibits IV and V.

The temporary detention facility on the Westland property is shown on Exhibit VI. It will be seeded in accordance with the seeding specification used on the diversion constructed with Unit I. The pond is designed with 82,900 cubic feet of storage. This provides approximately 3,000 cubic feet of excess capacity (4%)for sediment storage.

Westland Corporation has agreed to provide a temporary drainage easement to Presley Corporation and the City for construction and maintenance of the temporary pond, until such time that the Westland property is developed. Presley will accept responsibility for construction, maintenance and liability for the pond, and will provide the necessary financial guarantees to the city.

Some of the soil stockpiled in the future Unit III will be used in the construction of Unit II. However, most of it will not be required until the construction of Unit III. During the construction of Unit II, the stockpiles will be revegetated to prevent erosion of them in the intervening time. They will be seeded according to the specification used for the seeding of the diversion dikes.

LAS LOMITAS
UNIT II INTERIM DRAINAGE PLAN



KEYED NOTES

1. DIVERSION DITCH & DIKE CONSTRUCTED WITH UNIT I TO REMAIN.
2. EARTH STOCKPILES TO BE REVEGETATED WITH UNIT II CONSTRUCTION
3. TEMPORARY DIVERSION WITH SAME CROSS SECTION AS THAT REFERENCED IN NOTE 1 ABOVE
4. 12" OUTLET PIPE TO DISCHARGE INTO PAVED TURNAROUND

INTERIM DRAINAGE PLAN FOR UNIT II

FIGURE III

TABLE IV

REVISED STREET DEPTH ANALYSIS

AP	Q100 (CFS)	STREET WIDTH	SLOPE (%)	DEPTH OF FLOW (FT)	CURB TYPE
5A	9.0	32	2.0%	0.32	MOUNTABLE
2	20.9	32	2.5%	0.40	MOUNTABLE
3	29.2	32	2.5%	0.44	MOUNTABLE
4	34.0	32	1.0%	0.57	STANDARD
7	54.8	32	3.2%	0.52	STANDARD
8	78.9	40	0.5%	0.85	STANDARD
11	89.4	40	0.5%	0.88	STANDARD
12	98.7	40	0.6%	0.88	STANDARD

NOTE: FLOW DEPTHS ARE FROM PLATE 22.3 D-1 OF THE DP

flow depths cannot get above curb elevation

DP 4 pg 45

SUMMARY

1. Las Lomitas Subdivision is being developed in general conformance with the approved drainage plan approved by the City in 1991.

2. Revisions to the approved plan are needed to handle drainage under a revised project phasing plan.The overall plan for the subdivision's internal drainage has not changed. The revisions are in conformance to the City Development Process Manual.

3. The temporary retention pond on Westland's site will be in compliance with all state regulations, and adequate provision has been made for its safety, operation and maintenance.

4. Financial guarantees for the required infrastructure will be provided.

RECOMMENDATIONS

1. That this document serve as the basis for approval of the final plat for Las Lomitas (Unit II) Subdivision.

REFERENCES

DEVELOPMENT PROCESS MANUAL, VOLUME II, City of Albuquerque, Chapter 22

SOIL SURVEY OF BERNALILLO COUNTY, NEW MEXICO, U.S. Soil Conservation Service

ALBUQUERQUE MASTER DRAINAGE STUDY, VOLUME II, Bohannan-Huston Inc.

HYDROLOGIC MODELING AND DRAINAGE CRITERIA - USING THE AHYMO COMPUTER PROGRAM, Short Course Manual, UNM, 1992

FAR NORTHWEST DRAINAGE MANAGEMENT PLAN, FINAL REPORT, Bohannan-Huston, Inc., March 1986.

EL RANCH ATRISCO PHASE V, CONCEPTUAL GRADING AND DRAINAGE PLAN, Easterling and Associates, July 1987.

EROSION STUDY, MIREHAVEN ARROYO ADJACENT TO LA MERCED DE ATRISCO SUBDIVISION, Easterling and Associates, Inc., January 1988.

DRAINAGE REPORT FOR LA MERCED DE ATRISCO, Brasher Engineering, Inc., March 1989, Revised March 1991.

[redacted]

BRASHER
ENGINEERING
INC.

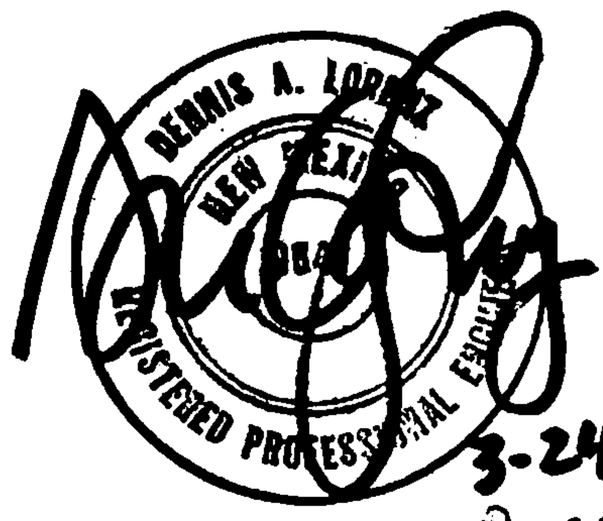
11930 MENAUL BLVD. NE • SUITE 111
ALBUQUERQUE, NM • 87112

DRAINAGE REPORT
FOR
LA MERCED DE ATRISCO

PREPARED FOR:

PRESLEY COMPANY OF NEW MEXICO
1909 CARLISLE BOULEVARD NE
ALBUQUERQUE, NEW MEXICO 87110

RECEIVED
AUG 23 1991



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REVISED MARCH 1991
MARCH 1989

TABLE OF CONTENTS

	PAGE
PURPOSE AND SCOPE	1
SITE LOCATION AND DESCRIPTION	1
EXISTING DRAINAGE CONDITIONS	4
RESOURCE MATERIAL	4
PROPOSED DRAINAGE CONDITIONS	8
EROSION CONTROL	12

LIST OF FIGURES AND EXHIBITS

VICINITY MAP - FIGURE 1	2
SOILS MAP - FIGURE 2	3
EXISTING DRAINAGE BASINS - FIGURE 3	5
FLOOD HAZARD MAP - FIGURE 4	6
FUTURE DEVELOPED OFFSITE BASINS - FIGURE 5	11
DRAINAGE PLAN	POCKET

APPENDICES

DRAINAGE CALCULATIONS	APPENDIX "A"
CORRESPONDENCE	APPENDIX "B"

PURPOSE AND SCOPE

The purpose of this Drainage Report is to establish the criteria for controlling surface runoff from LA MERCED DE ATRISCO and contributing upstream areas in a manner which is acceptable to the City of Albuquerque and the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA). The Plan studies the existing and developed conditions of the subject site and analyzes both conditions at the 100-year and 10-year/6-hour duration storm events. The Plan outlines drainage management criteria for the development of LA MERCED DE ATRISCO.

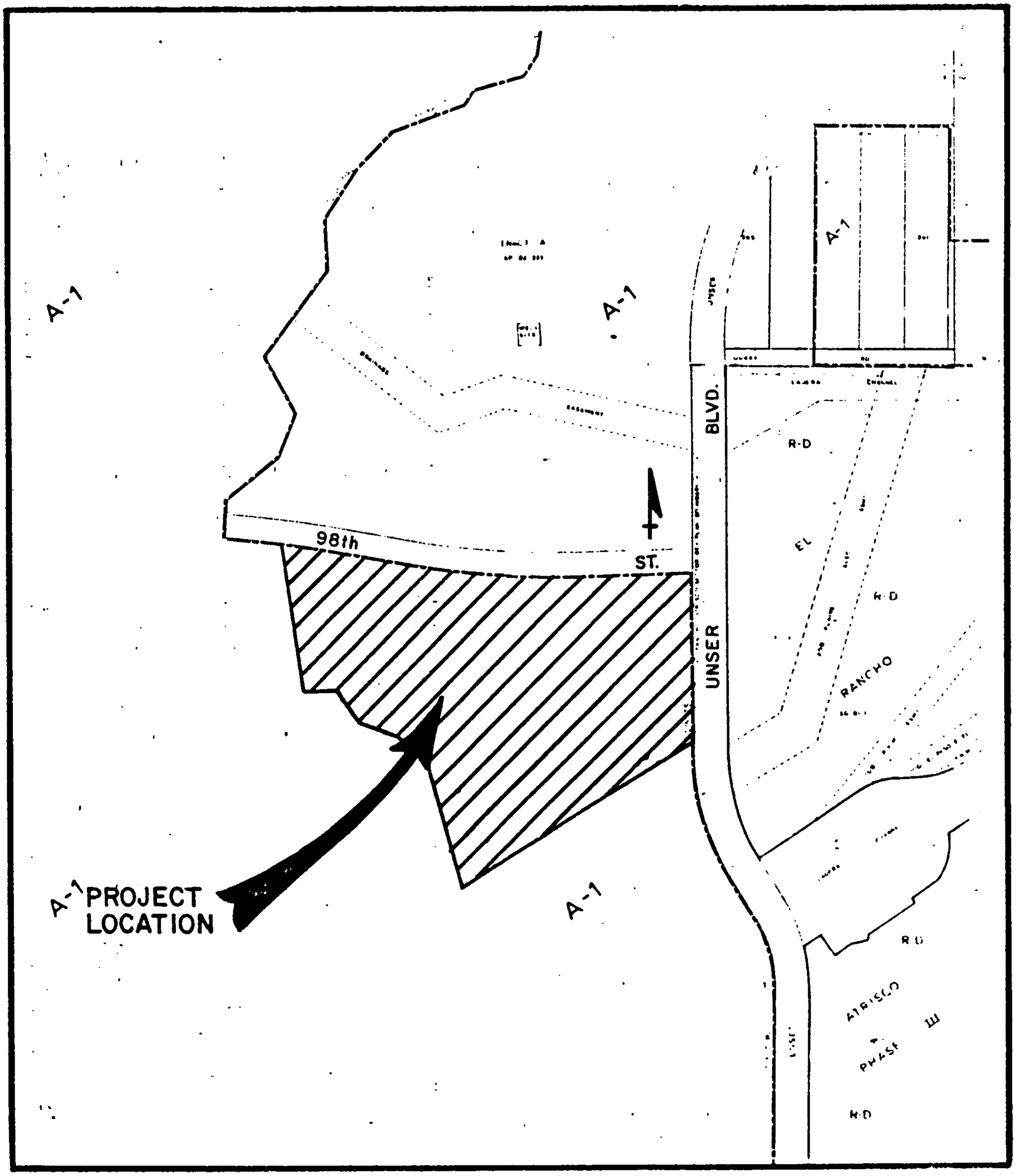
The scope of this Plan is to ensure that the project will be protected from storm runoff and that the development of this project will not increase the flooding potential of adjacent and downstream properties.

Approval of this Drainage Report shall facilitate Preliminary Plat and Work Order approval for LA MERCED DE ATRISCO.

SITE LOCATION AND DESCRIPTION

LA MERCED DE ATRISCO is located in northwest Albuquerque (see Vicinity Map, Figure 1) and is bounded by 98th Street on the north, Unser Boulevard on the east, undeveloped land on the south, and the unimproved Mirehaven Arroyo on the west. The site is located at the northeast corner of the sector plan for El Rancho Atrisco Phase V and is presently identified as Tract A-1, El Rancho Atrisco, Unit 5.

The site is presently undeveloped, with the existing topography sloping from west to east at approximately 2%. The site is bounded on the north and east by 98th Street and Unser Boulevard respectively which were recently constructed by SAD 215. The

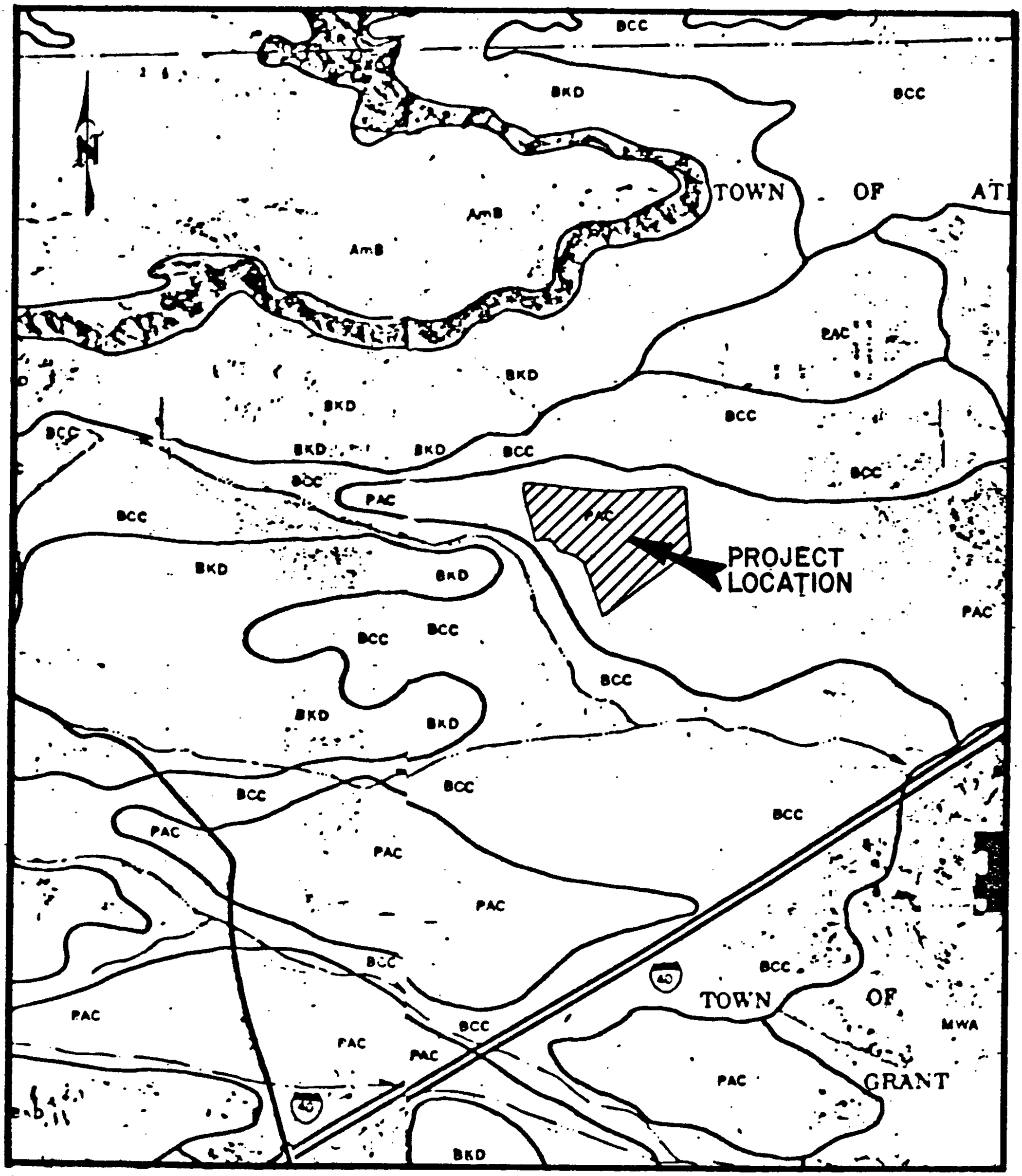


VICINITY MAP

SCALE : 1" = 800'

H-9

Figure 1



SOILS MAP

SCALE: 1"=2000'

Figure 2

Mirehaven Arroyo is located to the west of the site and drains southward to the Ladera Diversion and Detention System, Pond No. 12.

The major soil group present within the site is the Pajarito Series (PaC), (see Figure 2), a type "B" soil. Pajarito is found on moderate slopes on the west and east mesas. Involved in this mapping unit are areas of bluepoint, madurez, and wink soils. Runoff is slow, and the hazard of soil blowing is severe.

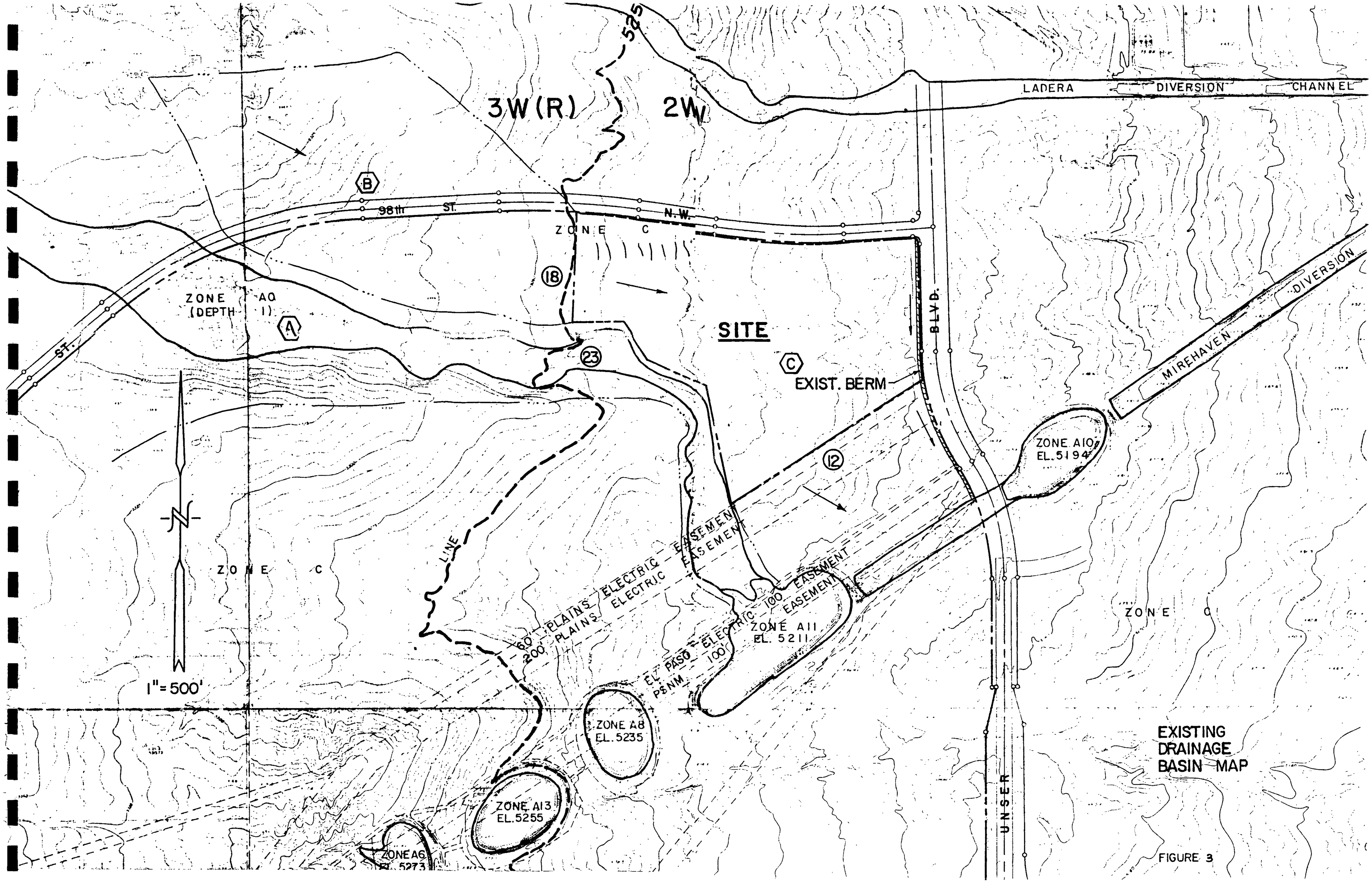
EXISTING DRAINAGE CONDITIONS

The project site is presently undeveloped and covered with native vegetation. The project site presently drains east and south into the Ladera Diversion and Detention Facility. Improvements provided by SAD 215 divert all existing flows south to Pond No. 13 of the Ladera System by interim diversion swales provided by SAD 215 (see Figure 3). 98th Street diverts offsite flows from the north by utilization of street and storm sewer improvements which outfall into the Ladera Arroyo. The interim swales located onsite and offsite are intended to prohibit the discharge of sediment into Unser Boulevard. The Mirehaven Arroyo is located adjacent to the southwest boundary of the site and is presently unimproved. The Mirehaven Arroyo conveys undeveloped flows to pond 12 of the Ladera Diversion and Detention System. No offsite flows enter the site from the north, east, or south.

As shown by Plate 21 of 50 of the Floodway Maps for Albuquerque, this site does not lie within a flood hazard zone (see Figure 4).

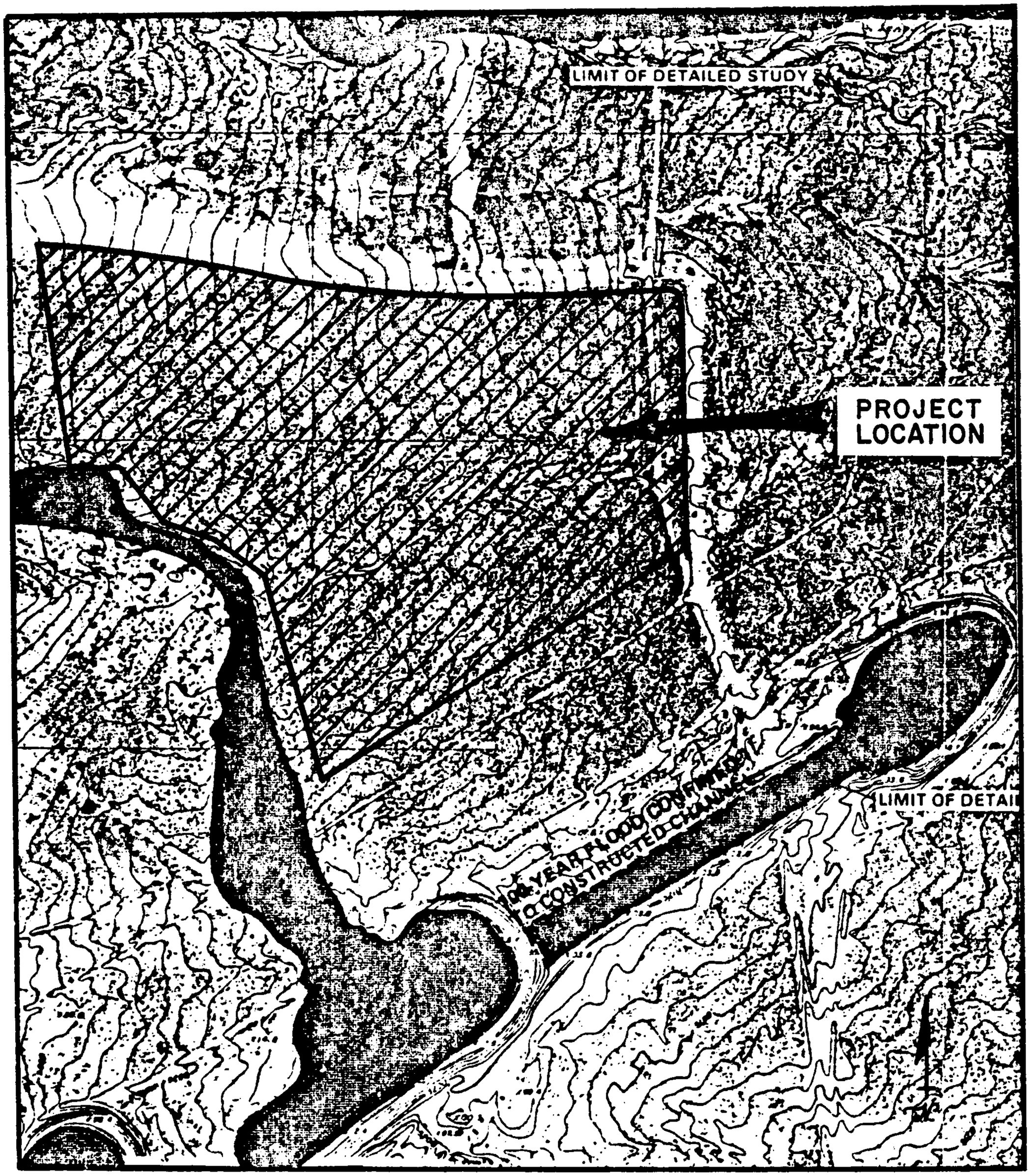
RESOURCE MATERIAL

The following hydrologic studies have been utilized for the preparation of this report:



EXISTING DRAINAGE BASIN MAP

FIGURE 3



FLOOD HAZARD MAP

SCALE: 1" = 500'

Figure 4

Far Northwest Drainage Management Plan, Final Report, prepared by Bohannan-Huston, Inc., March 1986. This document provided broad guidelines for drainage management for the far northwest mesa of Albuquerque. It provided recommendations for such items as:

- o Development plan criteria
- o Acquisition of drainage rights-of-way and easements
- o Management of existing drainage depression areas
- o Treatment of existing arroyos
- o Watershed management

El Rancho Atrisco Phase V, Conceptual Grading and Drainage Plan, prepared by Easterling and Associates, Inc., July 1987. This document provided drainage management criteria for the El Rancho Atrisco Phase V sector plan area, located in the northwest mesa of Albuquerque. Watershed management and infrastructure requirements were provided for future development within the plan area.

Drainage Analysis Report, Special Assessment District No. 215, Unser Boulevard and 98th Street, prepared by Greiner Engineering, July 1986. This document addresses recommended drainage solutions for portions of Unser Boulevard and 98th Street. Offsite drainage management criteria is outlined to mitigate soil erosion.

Erosion Study, Mirehaven Arroyo Adjacent to La Merced de Atrisco Subdivision, prepared by Easterling and Associates, Inc., January 1988. This document studies the erosion and migration potential of the Mirehaven Arroyo within the reach adjacent to La Merced de Atrisco. This study also established a prudent line for development adjacent to the arroyo.

Northwest Mesa Drainage Management Plan preliminary, prepared by Scanlon & Associates, Inc., dated February 1989. This document analyzes the northwest mesa and makes recommendations for storm drainage improvements. This plan is basically an update to the Far Northwest Drainage Management Plan, Final Report.

PROPOSED DRAINAGE CONDITIONS

The drainage plan for LA MERCED DE ATRISCO is provided in the back pocket of this document for review. The plan outlines grading criteria with: spot elevations, street slopes, arrows indicating direction of flow, proposed retaining wall locations, and interface requirements. Drainage basin boundaries and analysis points are provided to describe hydrologic criteria. Required public and private infrastructure improvements are graphically shown and will be itemized in the project infrastructure listing.

The project is planned to be developed in two phases. Phase One consists of the area east of and including Atrisquenos Street. Phase Two consists of the remaining acreage. Each phase is discussed separately in the following sections:

PHASE ONE

Phase One consists of the eastern 18.6 acres of the project site, including Atrisquenos Street. As shown by the Phase One plan (see Sheets 1 & 2 in back pocket) all stormwater will be routed overland by street flow to three outfall points. Basins 16, 20-22 will discharge into an existing storm drain system located within 98th Street. A type "D" inlet will be placed at analysis point 16 to convey internal onsite flows to the existing storm drain system. 98th Street and the rear yard areas that front 98th Street will drain to existing improvements.

Basins 13 through 15 will drain to Unser Boulevard by a standard type "A" channel at analysis Point 15. Existing improvements within Unser boulevard will convey flows to Pond No. 13.

Offsite Basin "B" and onsite Basins "Y" and "8" will drain to analysis Point 8. Basin "B" consists of undeveloped offsite property owned by Westland Development Corporation which the site is required to accept and manage under interim conditions. Basin "Y" consists of the undeveloped onsite acreage which will be developed as Phase Two. Basins "B" and "Y" combine onsite and will be directed south along the west side of Atrisquenos Street by a trainer dike. The dike serves as an erosion control device preventing sediment from entering Phase One. It also directs these flows to the offsite interim pond and outfall improvements which drains basins "B", "Y" and "8" to the Ladera Diversion and Detention System Pond No. 13.

This site is allowed to free discharge to Pond No. 13 under certain conditions, as stipulated by A.M.A.F.C.A.: 1) that capacity of downstream facilities not be exceeded, and 2) that no offsite areas are programmed to discharge developed runoff into Pond No. 13 or the Mirehaven Arroyo without the provision of improvements. The "Northwest Mesa Drainage management Plan" reports that the Ladera system is undersized to manage developed flows; however, under existing conditions, capacity is available. Per the plan, Pond No. 13, which accepts flows from this site, has a capacity of approximately 34.5 acre-feet. Under existing conditions, the dam accepts 24.5 acre-feet. Therefore, approximately 10 acre-feet of storage is available. This site will drain an additional 2.0 acre-feet due to development under interim conditions. Under future conditions, with the diversion of offsite basins to the Mirehaven, a net decrease in volume released to Pond No. 13 should result.

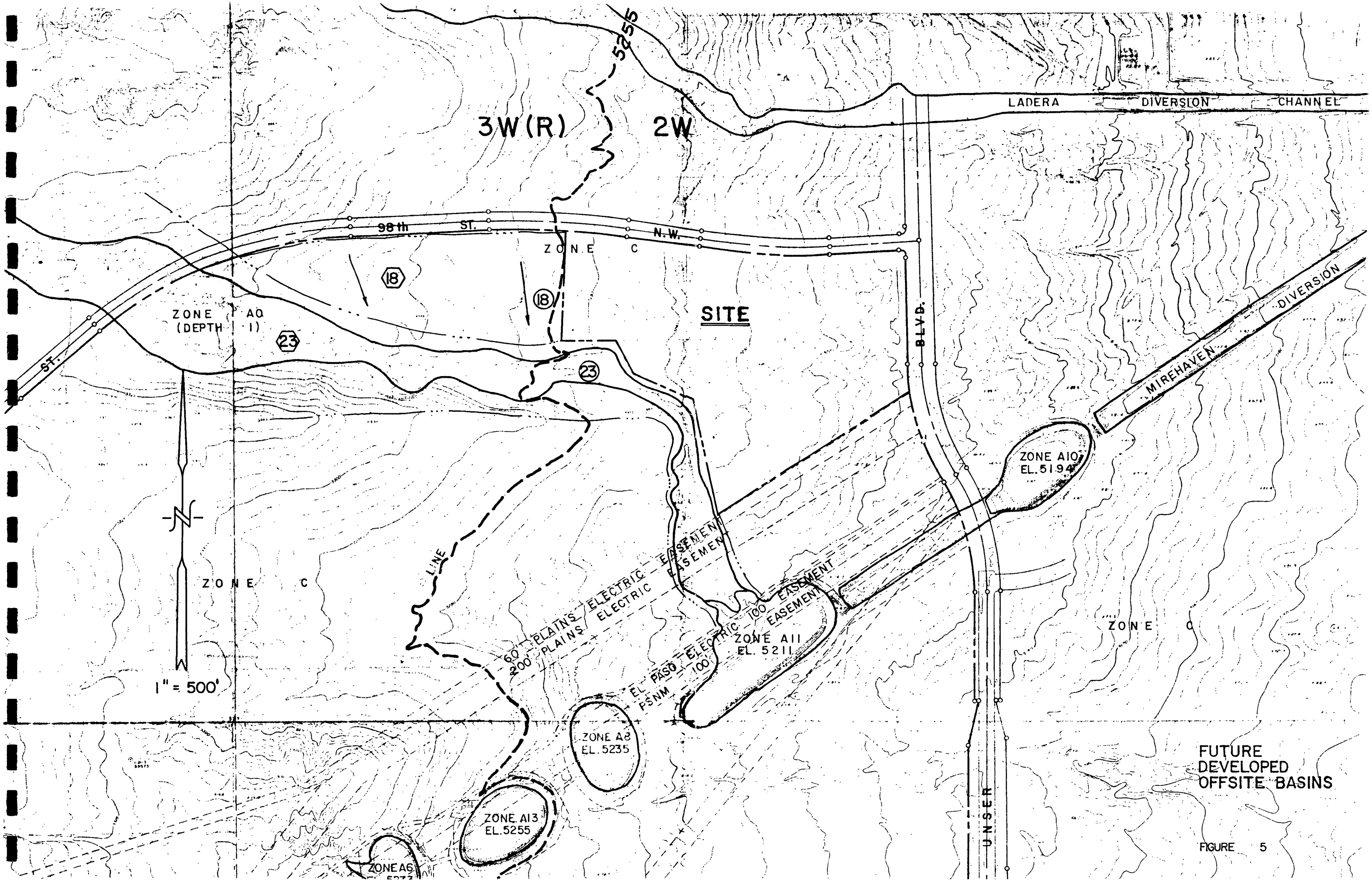
PHASE TWO

Phase Two will consist of the development of the remaining acreage within LA MERCED DE ATRISCO. As shown by the plan (see Sheets 3 & 4 in back pocket) all onsite stormwater will be conveyed by the public street system to Atrisquenos Street which will serve as a drainage conduit to the offsite interim pond constructed under Phase One. All Phase One facilities are designed to accommodate fully developed conditions resulting from construction of Phase Two improvements.

The onsite street network and offsite interim improvements are designed to accommodate developed flows expected from the offsite Westland parcels (Basin "B") as identified by the conceptual Grading and Drainage Plan for ERA Phase V. The right to drain these offsite parcels into the Ladera system will be determined by AMAFCA at a later date.

If Phase Two develops prior to offsite Basin "B", interim measures will be required to manage undeveloped flows from offsite Basin "B". This necessary since no flows can be diverted to the Mirehaven Arroyo without downstream improvements. An interim detention pond will be constructed just west of the project site to collect and hold undeveloped offsite flows. The pond will discharge into Rancho Estero Road at a controlled rate of 4 cfs. This discharge rate allows drainage of the pond within 6 hours. An emergency spillway will be provided to direct flows should the pond overflow. The spillway will overflow to the Mirehaven Arroyo. It is felt that an overflow into the subdivision may result in more damage to private property than a discharge into the arroyo.

Improvements to the Mirehaven Arroyo will be made with the development of Phase Two in accordance with the erosion study prepared by Easterling and Associate, Inc. The study identifies



FUTURE DEVELOPED OFFSITE BASINS

FIGURE 5

required improvements and establishes a prudent line for this project. The study utilizes existing undeveloped conditions and assumes that no diversions will be made to the Mirehaven. Therefore, this project does not drain to the Mirehaven. Any upstream development or diversion will require a reanalysis of the erosion study, and/or improvements to the arroyo and downstream facilities. For specific arroyo improvements proposed to the Mirehaven, please see the referenced document.

EROSION CONTROL

Erosion control measure are to be taken during the construction phase of the project to limit discharge of sediment into adjoining public streets and drainage facilities. Temporary erosion control berms will be required along the project interface with 98th Street, Unser Boulevard and the undeveloped parcel to the south. These facilities shall remain in place, and be maintained by the contractor(s) until all paving and drainage improvements are completed. An interim detention pond shall also be constructed west of the project to control undeveloped offsite flows. This pond must remain in place and be maintained by the developer or City until the land to the west develops. The Presley Company of New Mexico has obtained permission from Westland Development Company, Inc. to construct the interim detention pond (see attached letter provided in Appendix B).

APPENDIX "A"

CALCULATIONS

I. CRITERIA

Criteria for hydrologic calculations is per the Rational and SCS methods of estimating storm runoff as outlined in the City of Albuquerque "Development Process Manual", Volume II, Chapter 22.

Rainfall: P100/6 hour = 2.20 in.
P10/6 hour = 1.45 in.

Rainfall Intensity: $I = 6.84P(Tc^{-.51})$ (in/hr)

where P = rainfall (in)
Tc = time of conc.(min)

Time of Concentration: $Tc = 0.0078(L^{0.77})/S^{0.385}$ (min.)

where L = length (ft.)
S = slope (ft./ft.)

Soil: Pajarito (PAC), Group 'B'

SCS curve number: CN per DPM, Vol. II, plates 22.2 C2 & C3

Rational "C" factor: "C" factor by Notice of Emergency Rule

Runoff: Q = CIA (c.f.s.) - Rational Method

where A = basin area (ac.)
I = intensity (in/hr)
C = "C" factor

Volume: 3630AR (c.f.) - SCS Method

where A = basin area (ac.)
R = direct runoff (in.)

/.

LA MERCED DE ATRISCO
HYDROLOGY
EXISTING CONDITION

AP	Basin	Area (ac)	Length (ft)	Ht (ft)	Tc (min)	I100 (in/hr)	C	CN	R 10 (in)	R100 (in)	Q 10 (cfs)	Q 100 (cfs)	V 10 (cf)	V 10((cf)
*23	A	-	-	-	-	-	-	-	-	-	-	5795	-	-
18	B	67.9	3000	145	13	4.07	0.40	70	0.10	0.35	72.6	110.5	24648	86267
12	C	53.3	2150	43	13	4.07	0.40	70	0.10	0.35	57.0	86.8	19348	67718
12	B,C	121.2	5150	188	20	3.27	0.40	70	0.10	0.35	104.2	158.5	43996	153985

* From "Conceptual Grading and Drainage Plan for El Rancho Atrisco Phase V"

REVISED 8-22-91

LA MERCED DE ATRISCO
HYDROLOGY
DEVELOPED CONDITION
PHASE ONE

AP	Basin	Area (ac)	Length (ft)	Ht (ft)	TC (min)	I100 (in/hr)	C	CN	R 10 (in)	R100 (in)	Q 10 (cfs)	Q 100 (cfs)	V 10 (cf)	V 100 (cf)
18	B	67.9	3000	145	13	4.07	0.40	70	0.10	0.30	72.6	110.5	24648	73943,
18	8	3.3	1150	7	13	4.07	0.95	95	1.00	1.70	8.4	12.8	11979	20364
8	Y	34.7	2600	32	18	3.45	0.40	70	0.10	0.30	31.5	47.9	12596	37788
13	13	2.6	470	4	10	4.65	0.64	82	0.30	0.75	5.1	7.7	2831	7079
14	14	2.9	550	11	10	4.65	0.64	82	0.30	0.75	5.7	8.6	3158	7895
15	15	4.1	800	10	10	4.65	0.64	82	0.30	0.75	8.0	12.2	4465	11162
16	16	3.2	500	15	10	4.65	0.64	82	0.30	0.75	6.3	9.5	3485	8712
17	17	18.2	1500	26	10	4.65	0.40	70	0.10	0.35	22.2	33.9	6607	23123
19	19	1.1	660	2	11	4.43	0.60	88	0.50	1.20	1.9	2.9	1997	4792
20	20	2.3	1540	36	10	4.65	0.60	88	0.50	1.20	4.2	6.4	4175	10019
21	21	0.5	320	8	10	4.65	0.60	88	0.50	1.20	0.9	1.4	908	2178
22	22	0.9	260	4	10	4.65	0.60	88	0.50	1.20	1.6	2.5	1634	3920
23*	A											5795		
24	24	0.3	420	2	10	4.65	0.95	95	1.00	1.70	0.9	1.3	1089	1851
25	25	0.4	500	12	10	4.65	0.95	95	1.00	1.70	1.2	1.8	1452	2468
14	13,14	5.5	870	14	10	4.65	0.64	82	0.30	0.75	10.8	16.4	5990	14974
15	13-15	8.6	970	15	10	4.65	0.64	82	0.30	0.75	18.8	28.6	10454	26136
19	13-15, 19	10.7	1320	16	11	4.43	0.64	82	0.30	0.75	19.9	30.3	11652	29131
24	13-15, 19,24	11.0	1740	18	14	4.23	0.66	83	0.35	0.80	20.2	30.7	13976	31944
25	13-15, 19,24 25	11.4	2240	30	16	4.06	0.67	84	0.40	0.90	20.4	31.0	16553	37244
21	20,21	2.8	1860	44	11	4.43	0.66	88	0.50	1.20	5.4	8.2	5082	12197
22	20-22	3.7	2120	48	12	4.24	0.66	88	0.50	1.20	6.8	10.4	6716	16117
8	B+Y	103	5600	177	28	2.75	0.40	70	0.10	0.30	74.1	112.9	37244	111731
8	B+Y+8	106	5600	177	28	2.75	0.41	71	0.10	0.30	78.4	119.4	38442	115325

* From "Conceptual Grading and Drainage Plan for El Rancho Atrisco Phase V"

Basin 8 D 50%
B 30
C 20

Basin Dev A = 100

REVISED 8-22-91

LA MERCED DE ATRISCO
HYDROLOGY
FULLY DEVELOPED CONDTION

AP	Basin	Area (ac)	Length (ft)	Ht (ft)	TC (min)	I100 (in/hr)	C	CN	R 10 (in)	R100 (in)	Q 10 (cfs)	Q 100 (cfs)	V 10 (cf)	V 100 (cf)
1	1	7.2	1400	34	10	4.65	0.64	82	0.30	0.75	14.1	21.4	7841	19602
2	2	4.0	670	17	10	4.65	0.64	82	0.30	0.75	7.8	11.9	4356	10890
3	3	2.8	420	5	10	4.65	0.64	82	0.30	0.75	5.5	8.3	3049	7623
4	4	1.6	500	9	10	4.65	0.64	82	0.30	0.75	3.1	4.8	1742	4356
5	5	2.0	500	7	10	4.65	0.64	82	0.30	0.75	3.9	6.0	2178	5445
6	6	7.1	1250	26	10	4.65	0.64	82	0.30	0.75	13.9	21.1	7732	19330
7	7	0.4	190	7	10	4.65	0.64	82	0.30	0.75	0.8	1.2	436	1089
8	8	2.5	850	4	11	4.43	0.64	82	0.30	0.75	4.7	7.1	2723	6806
9	9	4.3	760	22	10	4.65	0.64	82	0.30	0.75	8.4	12.8	4683	11707
10	10	4.6	830	16	10	4.65	0.64	82	0.30	0.75	9.0	13.7	5009	12524
11	11	0.9	250	3	10	4.65	0.64	82	0.30	0.75	1.8	2.7	980	2450
12	12	0.6	230	1	10	4.65	0.64	82	0.30	0.75	1.2	1.8	653	1634
13	13	2.6	470	4	10	4.65	0.64	82	0.30	0.75	5.1	7.7	2831	7079
14	14	2.9	550	11	10	4.65	0.64	82	0.30	0.75	5.7	8.6	3158	7895
15	15	4.1	800	10	10	4.65	0.64	82	0.30	0.75	8.0	12.2	4465	11162
16	16	3.2	500	15	10	4.65	0.64	82	0.30	0.75	6.3	9.5	3485	8712
17	17	18.2	1500	26	10	4.65	0.40	70	0.10	0.35	22.2	33.9	6607	23123
18	18	15.0	1900	48	11	4.43	0.60	82	0.30	0.75	26.2	39.9	16335	40838
19	19	1.1	660	2	11	4.43	0.60	88	0.50	1.20	1.9	2.9	1997	4792
20	20	2.3	1540	36	10	4.65	0.60	88	0.50	1.20	4.2	6.4	4175	10019
21	21	0.5	320	8	10	4.65	0.60	88	0.50	1.20	0.9	1.4	908	2178
22	22	0.9	260	4	10	4.65	0.60	88	0.50	1.20	1.6	2.5	1634	3920
23*	A											5795		
24	24	0.3	420	2	10	4.65	0.95	95	1.00	1.70	0.9	1.3	1089	1851
25	25	0.4	500	12	10	4.65	0.95	95	1.00	1.70	1.2	1.8	1452	2468
6	5,6	9.1	1600	33	10	4.65	0.64	82	0.30	0.75	17.8	27.1	9910	24775
3	2,3	6.8	690	24	10	4.65	0.64	82	0.30	0.75	13.3	20.2	7405	18513
4	2-4	8.4	1090	32	10	4.65	0.64	82	0.30	0.75	16.4	25.0	9148	22869
7	2-7	17.9	1730	37	11	4.43	0.64	82	0.30	0.75	33.3	50.8	19493	48733
8	1-8	27.6	1930	39	12	4.24	0.64	82	0.30	0.75	49.2	74.9	30056	75141
11	1-9,11	32.8	2180	41	13	4.07	0.64	82	0.30	0.75	56.1	85.4	35719	89298
2	1-12	38.0	2350	42	14	3.92	0.64	82	0.30	0.75	62.6	95.3	41382	103455
4	13,14	5.5	870	14	10	4.65	0.64	82	0.30	0.75	10.8	16.4	5990	14974
15	13-15	9.6	870	15	10	4.65	0.64	82	0.30	0.75	18.8	28.6	10454	26136
19	13-15, 19	10.7	1320	16	11	4.43	0.64	82	0.30	0.75	19.9	30.3	11652	29131
24	13-15, 19,24	11.0	1740	18	14	4.23	0.66	83	0.35	0.80	20.2	30.7	13976	31944
25	13-15, 19,24 25	11.4	2240	30	16	4.06	0.67	84	0.40	0.90	20.4	31.0	16553	37244
21	20,21	2.8	1860	44	11	4.43	0.66	88	0.50	1.20	5.4	8.2	5082	12197
22	20-22	3.7	2120	48	12	4.24	0.66	88	0.50	1.20	6.8	10.4	6716	16117
12.	1-12,18	53.0	4550	71	25	2.91	0.64	82	0.30	0.75	64.9	98.7	57,717	144,293

* From "Conceptual Grading and Drainage Plan for El Rancho Atrisco Phase V"

STREET DEPTH ANALYSIS

FULLY DEVELOPED

ANALYSIS POINT	Q100 (CFS)	STREET WIDTH	STREET SLOPE	D100 (FEET)	CURB TYPE
1	21.4	32	1.9%	0.42	MOUNTABLE
2	11.9	32	2.5%	0.34	MOUNTABLE
3	20.2	32	2.5%	0.41	STANDARD *
4	25.0	32	1.0%	0.48	MOUNTABLE
5	6.0	32	2.4%	0.28	MOUNTABLE
6	27.1	32	1.5%	0.46	MOUNTABLE
7	50.8	32	3.2%	0.49	MOUNTABLE
8	74.9	40	0.5%	0.80	STANDARD
9	12.8	32	4.7%	0.32	MOUNTABLE
10	13.7	32	3.7%	0.33	MOUNTABLE
11	85.4	40	0.5%	0.85	STANDARD
12	95.3	40	0.6%	0.85	STANDARD
13	7.7	32	0.5%	0.38	MOUNTABLE
14	16.4	32	2.1%	0.38	MOUNTABLE
15	28.6	32	0.5%	0.57	STANDARD
16	9.5	32	0.5%	0.41	MOUNTABLE #

* See Superelevation calculation for outside curve, page 19.

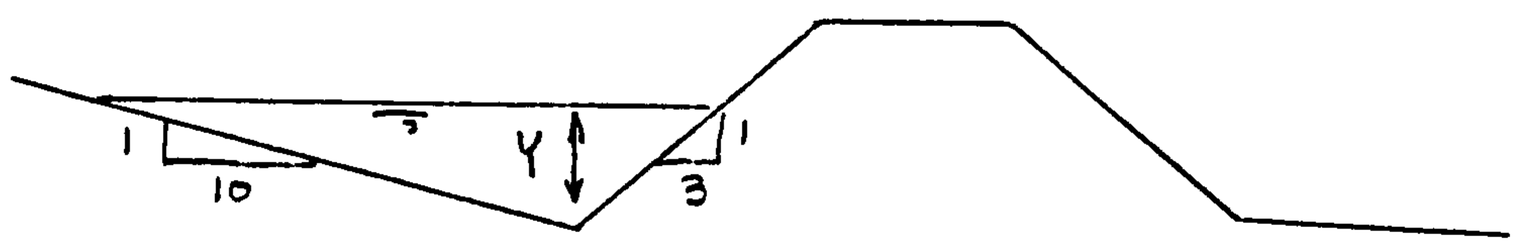
\# Provide Standard curb at drop inlet

PROJECT NAME LA MERCED DE ATRISCO JOB NO.

SUBJECT PHASE I DIKE

BY CK. BY APPROVED BY DATE PAGE 6 OF

A. TRAINER DIKE CAPACITY



SECTION

- FIND Y_o BY MANNINGS:

$Q_{100} = 113$ CFS

$n = 0.025$

$S = 0.0056$

$A = \frac{10Y_o^2}{2} + \frac{3Y_o^2}{2} = 6.5Y_o^2$

$P = \sqrt{100Y_o^2 + Y_o^2} + \sqrt{9Y_o^2 + Y_o^2}$

$P = 10.05Y_o + 3.16Y_o$

$= 13.21Y_o$

BY TIE::

$$113 = \frac{1.49}{0.025} AR^{2/3} (0.0056)^{\frac{1}{2}}$$

$AR^{2/3} = 25.3$

$Y_o = 2' \pm$

PROVIDE 3' FREEBOARD

USE 5' TOTAL BERM HEIGHT

CHECK VELOCITY AT Q_{100}:

$A = 26sF$ $Q = 113$ CFS $V = Q/A = 4.3$ CFS.

B. SIZE TYPE 'A' CHANNEL AT AP 15

$Q_{100} = 28.6$ CFS

CHECK HEAD REQUIRED AT CHANNEL ENTRANCE

NOTES:

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SUBJECT CALCULATIONS

LA MERCED DE ATRISCO
PHASE I

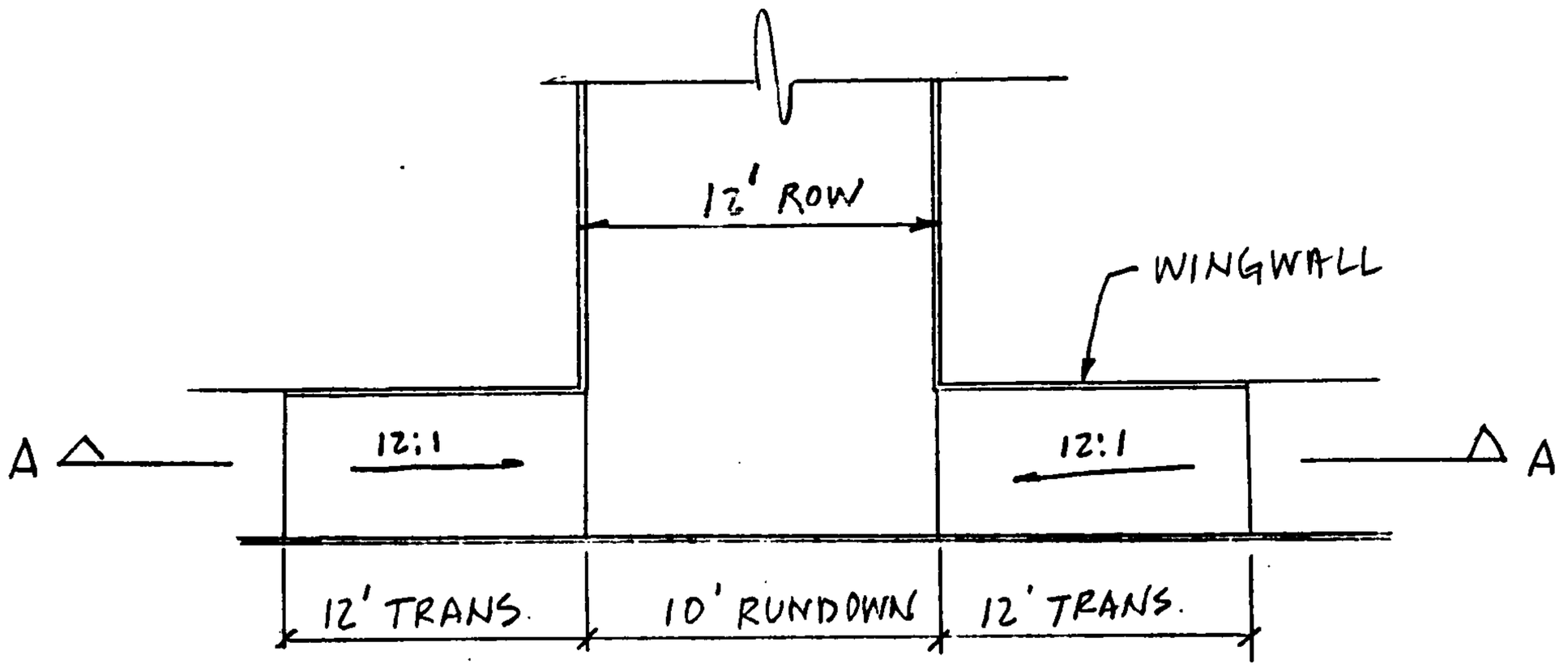
SHEET 7 OF ____ BY DL

DATE 6-21-89 CK BY ____

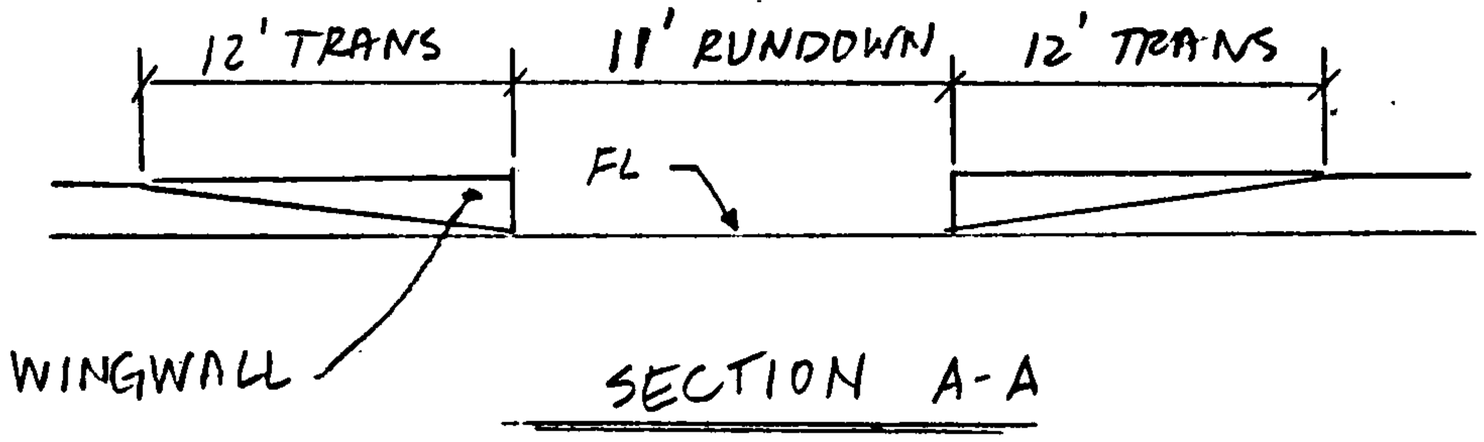
REVISED 9-14-90

- $Q_{100} = 3.33 L H^{3/2}$ $\quad L = 11'$

$\Rightarrow H = \left(\frac{Q}{3.33L}\right)^{2/3} = \underline{\underline{0.85'}} < 0.87'$ OK



PLAN



SECTION A-A

- BY MANNINGS' CHECK CHANNEL NORMAL DEPTH :

- $S = 0.005$ min.
  $Q = 25.9$ CFS
  $n = 0.013$
  $A = 11Y$
  $P = 2Y + 11$

$$Q = 28.6 = \frac{1.49}{0.013} A R^{2/3} (.005)^{1/2}$$

$$A R^{2/3} = 3.5$$

- SOLVING FOR Y : $Y = 0.55'\pm$

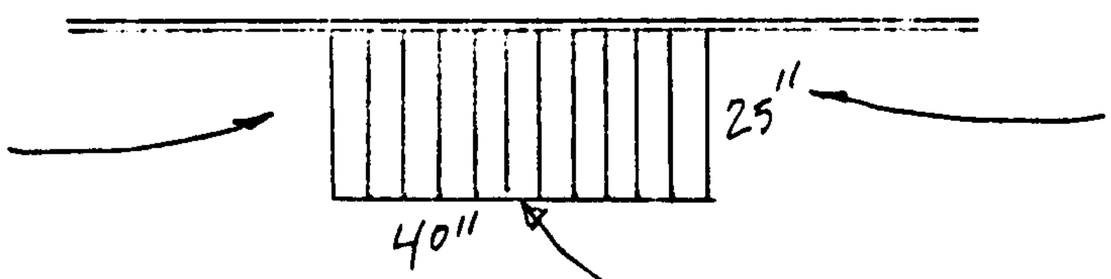
- PROVIDE 12" FB ⇒ USE 18" SIDEWALL

C. CHECK DROP INLET/SD CAPACITY AT AP 16 :

- $Q_{100} = 9.5$ CFS
  $d_{100} = 0.41'$

USE TYPE 'C' INLET IN SUMP CONDITION:

- CHECK HEAD REQ'D BY WEIR EQN :



- $L = P = 40" + 2(25") = 90" = 7.5'$
- $H = \left(\frac{Q}{3.33L}\right)^{2/3} = 0.52'$ – OK FOR STD C/G
- CHECK SD CAPACITY:

  $Q_{100} = 9.5$ CFS

  PIPE $\phi = 24"$

  BY MANNINGS':

  $A = 3.14$ SF
  $P = 6.28$ FT
  $n = 0.013$
  $S = 0.005$

- $Q = \frac{1.49}{.013}(3.14)(.5)^{2/3}(.005)^{1/2} = 16.0$ CFS $> Q_{100}$

D. CHECK RUNDOWN CAPACITY ON UNSER AT AP # 24:

- Q_{100} = 30.8 CFS — d_{100} = 0.74'
  Q_{10} = 20.2 CFS — d_{10} = 0.65' @ S = 0.5%

- BY WEIR EQN: WHERE RUNOFF WIDTH = 5'

  Q_{100} = 10.6 CFS Q_{10} = 8.7 CFS

⇒ EXCESS RUNOFF INTERCEPTED BY DI's AT BOX CULVERT - AP # 25.

E. TYPE 'D' INLET CAPACITY AT AP # 22:

- Q_{100} = 2.5 CFS
  Q_{10} = 1.6 CFS

- H_{MAX} = 0.75 PER INTERSECTION GRADING

USE WEIR EQN FOR SHALLOW H:

- L = P = 2(40") + 2(25") = 130" = 10.83'

- $H = \left(\frac{Q}{3.33 L} \right)^{2/3}$

H_{100} = 0.17' H_{10} = 0.13' OK ✓

F. PIPE CAPACITY FROM DI AT AP # 22:

EXISTING PIPE DIA = 18" RCP
S = 1%

- BY MANNINGS
  A = 1.77 SF
  P = 4.71'
  n = 0.013
- $Q_{PIPE} = \frac{1.49}{0.013}(1.77)(.38)^{2/3}(0.01)^{1/2} = 10.6$ CFS
- Q_{100} (IN CONNECTOR PIPE) =

  $Q(Ap\ 22 + Ap\ 16) = 2.5 + 8.6 = 11.1$ CFS.

- CHECK PIPE FOR PRESSURE FLOW WITH FINAL DESIGN. ANTICIPATE UPSIZING PIPE TO 24"

- CHECK 24" RCP CAPACITY

  A = 3.14 SF P = 6.28'

  $Q = \frac{1.49}{0.013}(3.14)(.5)^{2/3}(.1) = 22.7$ CFS > Q_{100}
  OK ✓

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SUBJECT CALCULATIONS

SHEET 12 OF

DATE 5-23-89 BY

CK BY DL

REVISED 6-21-89

LA MERCED DE ATRISCO

9. EXISTING SD CAPACITY

98TH ST / UNSER BLVD SD ANALYSIS

AP	Q100 CFS	Q10 CFS	SLOPE F/F	d100 FT	d10 FT	dALLOW FT		INLET TYPE	INLET Q100	INLET Q10	RESID Q100	RESID Q10		
98TH														
20	6.4	4.2	0.023	0.35	0.26	0.50		A	4.5	2.5	1.9	1.7		
21	1.4	0.9	"										ADD RESID AP 20	
21	3.3	2.6	"	0.28	0.27	0.50		A	3.0	2.6	0.3	0		
21	0.3	0	"	0.14	0	0.50		C	0.3	0	0	0		
22	2.5	1.6	SAG	0.17	0.13	0.50		D*	2.5	1.6	0	0		
UNSER														
19	30.3	19.9	0.005	0.73	0.64	0.70								
24	28.5	18.7	"	0.71	0.62	0.70		# RUN-DOWN	10.1	8.3	20.2	11.6		
25	1.8	1.2	0.025										ADD RESID AP 24	
25	22.0	12.8	"	0.51	0.43	0.70		A	8.5	7.0	13.5	5.8		
25	13.5	5.8	"	0.43	0.34	0.70		C	7.0	4.5	6.5	1.3		
25	6.5	1.3	"	0.33	0.22	0.70							DEPTH OK PER ORDINANCE	

* SEE PAGE 7

SEE PAGE 7

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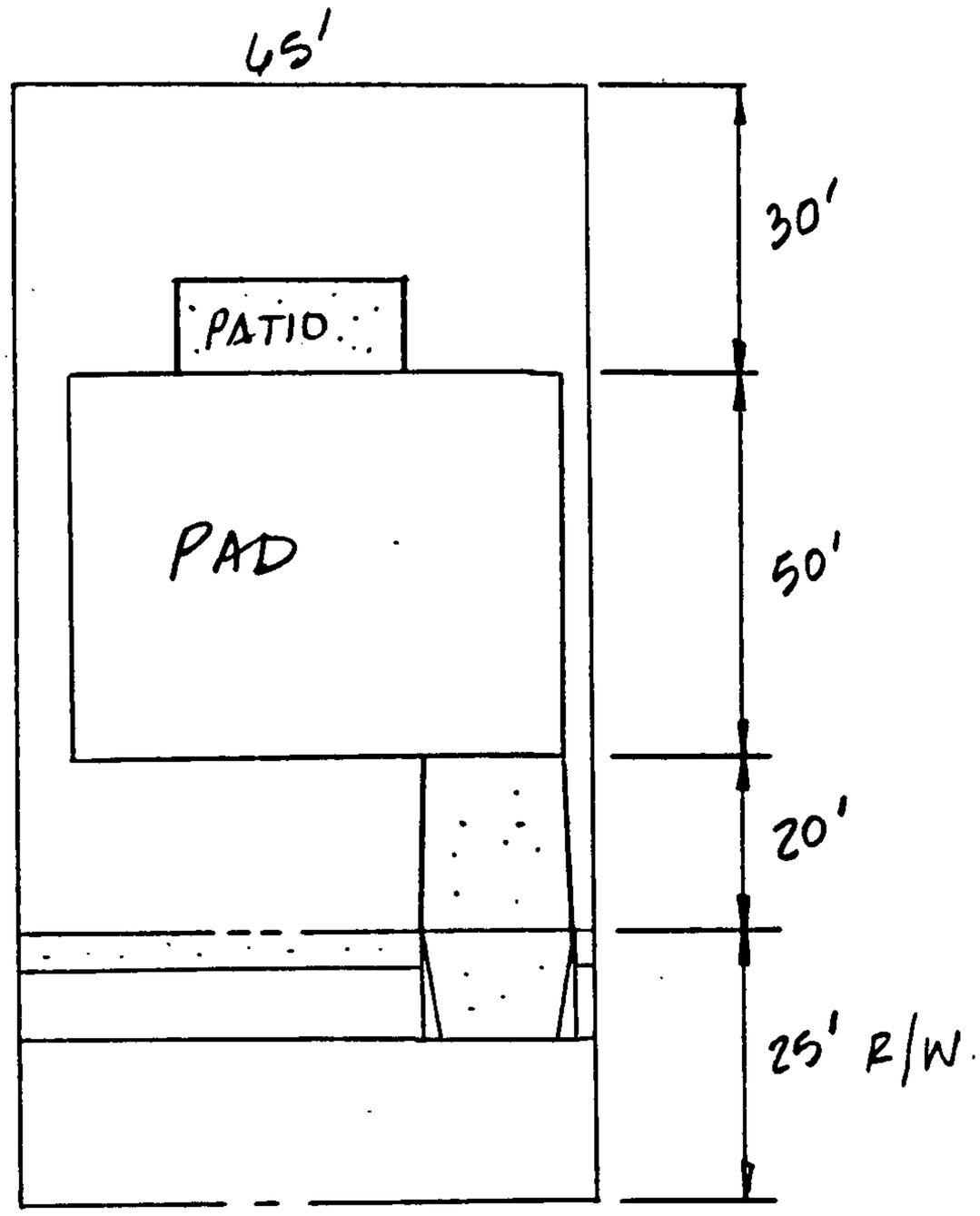
SUBJECT CALCULATIONS

LA MERCED DE ATRISCO

SHEET 13 OF ____ BY DL

DATE 6-21-89 CK BY ____

H. ONSITE RATIONAL 'C' FACTOR DETERMINATION:



AVE LOT SIZE • 65 x 100 + PUBLIC R/W = 8125 SF

- PAD = 2500 SF @ C = 0.90
- DRIVE/PATIO = 600 SF @ C = 0.95
- LAWNS/SOD = 3400 SF @ C = 0.25
- PUBLIC R/W = 1625 SF @ C = 0.95

'C' FACTOR = 0.64

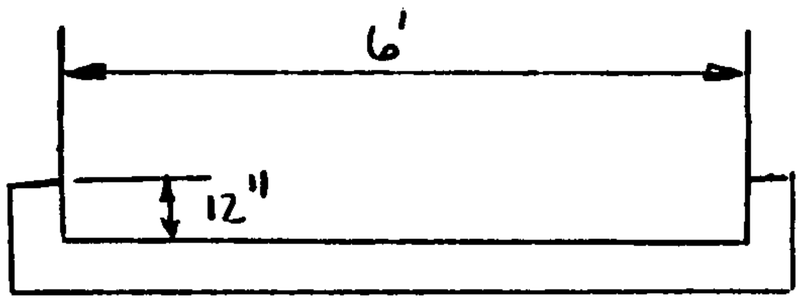
PROJECT NAME LA MERCED DE ATRISCO JOB NO.

SUBJECT PHASE I: INTERIM SWALE

BY CK. BY APPROVED BY DATE PAGE 14 OF

REVISED 9-22-91

I. CHECK EXISTING RUNDOWN AT CBC



SECTION B-B

PER FIELD SURVEY $S_{min} = 2\%$

CHECK CAPACITY BY MANNING'S:

Q_{100} (EXIST.) = 33.9 CFS

$n = 0.013$ $A = 6y_o = 6.0$ SF $R = A/p = 0.75$

$S = 0.02$ $P = 6 + 2y_o = 8.0'$

$$Q_{max} = \frac{1.49}{0.013}(6)(.75)^{2/3}\sqrt{0.02} = 80.3 \text{ CFS} > Q_{100} \quad \text{O/K}$$

NOTES:

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LA MERCED DE ATRISCO
PHASE II

SUBJECT CALCULATIONS

SHEET 15 OF ____ BY DL

DATE 6-21-89 CK BY ____

J. INTERIM POND VOLUME DETERMINATION:

AT AP # 18 (PROJECT WEST R; PHASE II)

Q_{100} (UNDEV) = 110.5 CFS (6 HOUR)

Y_{100} = 86,267 CF (6 HOUR)

PER ORDINANCE POND MUST DRAIN IN 6 HOURS

$$\text{DISCHARGE} = \frac{\text{VOL}}{\text{TIME}} = \frac{86{,}267 \text{ CFS}}{6 \text{ HOURS}} = 4.0 \text{ CFS}$$

BY UTILIZING SIMPLIFIED HYDROGRAPH (SEE PAGE 16) DETERMINE STORAGE:

$V_1 = 110.5(13)(60/2) = 43{,}095$ CF

$V_2 = V_{100} - V_1 = 43{,}172$ CF

$T_2 = 43172 / 110.5(60/2) = 13$ min $\quad T_T = 26$ min

$\Delta Q = Q_{100} - Q_R = 106.5$ CFS

$T_3 = 106.5\, T_T / 110.5 = 25$ min.

$V_{pond} = 106.5(25)(60/2) = 79{,}875$ CF

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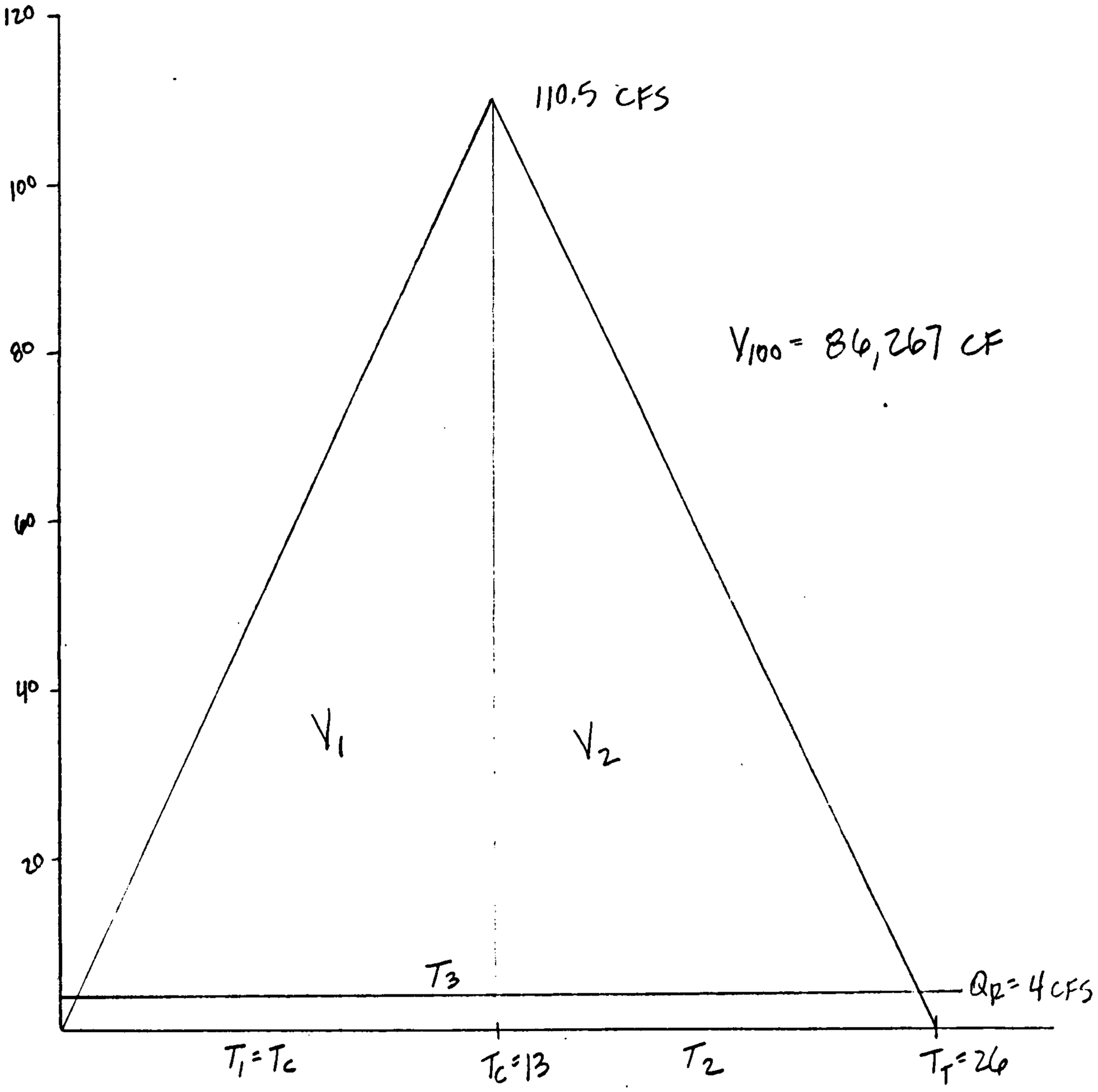
SUBJECT CALCULATIONS

LA MERCED DE ATRISCO
PHASE II

SHEET 16 OF ____ BY DL

DATE 6-21-09 CK BY ____

HYDROGRAPH FOR OFFSITE BASIN 'B'
AT PROJECT WEST PL. (PHASE II)



ESPEY, HUSTON & ASSOCIATES INC.
Engineering & Environmental Consultants

SUBJECT CALCULATIONS

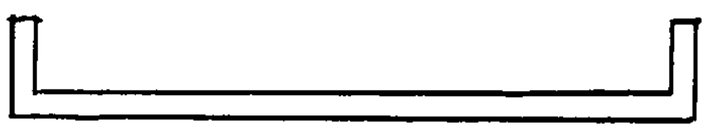
LA MERCED DE ATRISCO
PHASE II

SHEET 17 OF ____ BY DL

DATE 6-21-89 CK BY ____

SIZE OUTFALL FACILITY:

A. EMERGENCY SPILLWAY



LET H = 12"
Q = 110.5 CFS

SECTION

BY WEIR EQN: $Q = 3.33 L H^{3/2}$

$L = 110.5 \text{ CFS} / 3.33(1)^{3/2} = 33.2 \text{ FT}$

DIRECT EMERGENCY SPILLWAY FLOWS TO MIREHAVEN ARROYO.

B. PIPE OUTLET

ASSUME DEPTH = 2' ± (TO BE VERIFIED AT DESIGN DRAWING PHASE)

FIND PIPE DIA. FOR $Q_{OUT} = 4$ CFS

⇒ BY ORIFICE EQN $Q = CA\sqrt{2gh}$

WHERE $H = 2'$ $g = 32.2 \text{ f/s}^2$
$C = 0.5$

$A = Q/C\sqrt{2gh} = 4/0.5(2g2)^{1/2} = 0.7$ SF

USE 12" PIPE ($A = 0.78$ SF) CONSIDERING SEDIMENT, ETC Q_{OUT} SHOULD BE LESS THAN 4 CFS. OVERSIZED PIPE IS OK.

CHECK 12" PIPE FOR PIPEFLOW CAPACITY BY MANNINGS

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

WHERE $A = 0.78$ SF
$S = 2\%$
$R = 0.25$
$n = 0.013$

$Q = 4.9$ CFS $> Q_{INLET}$ ✓

DISCHARGE PIPE INTO INTERNAL PUBLIC STREET SYSTEM (CAMINO ESTEBO ROAD)

Where is 12" Pipe?

K. PONDING VOLUME DETERMINATION FOR LOT 57 (PHASE II):

DUE TO TOPOGRAPHY LOT 57 WILL RETAIN REARYARD RUNOFF - NO ROOF DRAINAGE ALLOWED.

- A = 8030 SF ±
  CN = 62 (SOD)
  R = 0.25"

$V_{POND} = 8030(0.25)/12 = 167$ CF.

L. CHECK SUPER-ELEVATION AT CURVE ON FRANCISCO NAVARRO AVE JUST EAST OF AP # 3 (PHASE II):

- $Q_{100} = 18.3$ CFS
  r = 75'
  b = 32'
  $d_{100} = 0.38$ FT.

- USE $\Delta Y = V^2 b / g \cdot r$

PROJECT NAME LA MERCED DE ATRISCO JOB NO.

SUBJECT

BY DL CK BY APPROVED BY DATE 8-22-91 PAGE 21 OF

M. INTERIM POND DESIGN AT AP 6

(PROJECT SOUTH PL; PHASE I)

Q_{100} = 119.4 CFS V_{100} = 115325 (PHASE I)

Q_{100} = 98.7 CFS V_{100} = 144,293 (PHASE II)

⇒ DESIGN POND FOR PHASE II VOLUME

USING 24" POND DRAINLINE DETERMINE

$Q_{RELEASE}$ & V_{POND}

ASSUME POND DEPTH = 4' ± MAX

ASSUME AVE DEPTH = 2' ±

BY ORIFACE EQN: $Q = CA\sqrt{2gH}$

WHERE C = 0.5 H = 2'

A = 3.14 SF

g = 32.2 f/s²

Q_R = 17.8 CFS

BY SIMPLIFIED HYDROGRAPH FIND V_{POND} (PAGE 23):

V_{100} = 144,293 CF Q_{100} = 98.7 CFS

$\Delta Q = Q_{100} - Q_R$ = 80.9 CFS

$V_1 = 98.7(25)(60/2)$ = 74,025 CF

$V_2 = V_{100} - V_1$ = 70,268 CF

$T_2 = 70{,}268\ CF / 98.7(60/2) = 24\ min$

$T_T = T_1 + T_2 = 49\ min$

$\Delta Q = 80.9\ CFS$

$T_3 = 80.9\ T_T / 98.7 = 40\ min.$

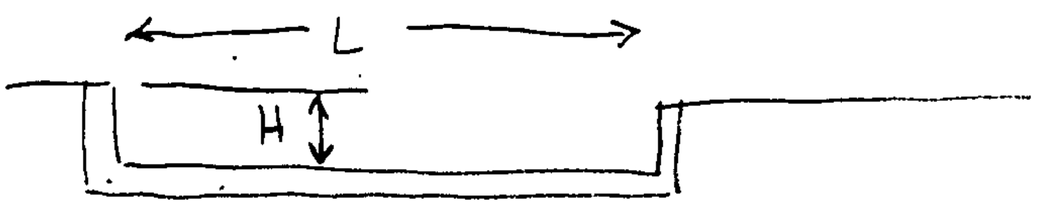
$V_{POND} = 80.9\ CFS\ (40\ min)(60/2) = \underline{97{,}080\ CF}$

ALL POND CALCS ARE PRELIMINARY AND MUST BE VERIFIED AT DRC SUBMITTAL.

N. SIZE INTERIM POND EMERGENCY SPILLWAY:

$Q_{100}(MAX) = 119.4\ cfs$ (PHASE I)

BY WEIR: $Q = 3.33 LH^{3/2}$



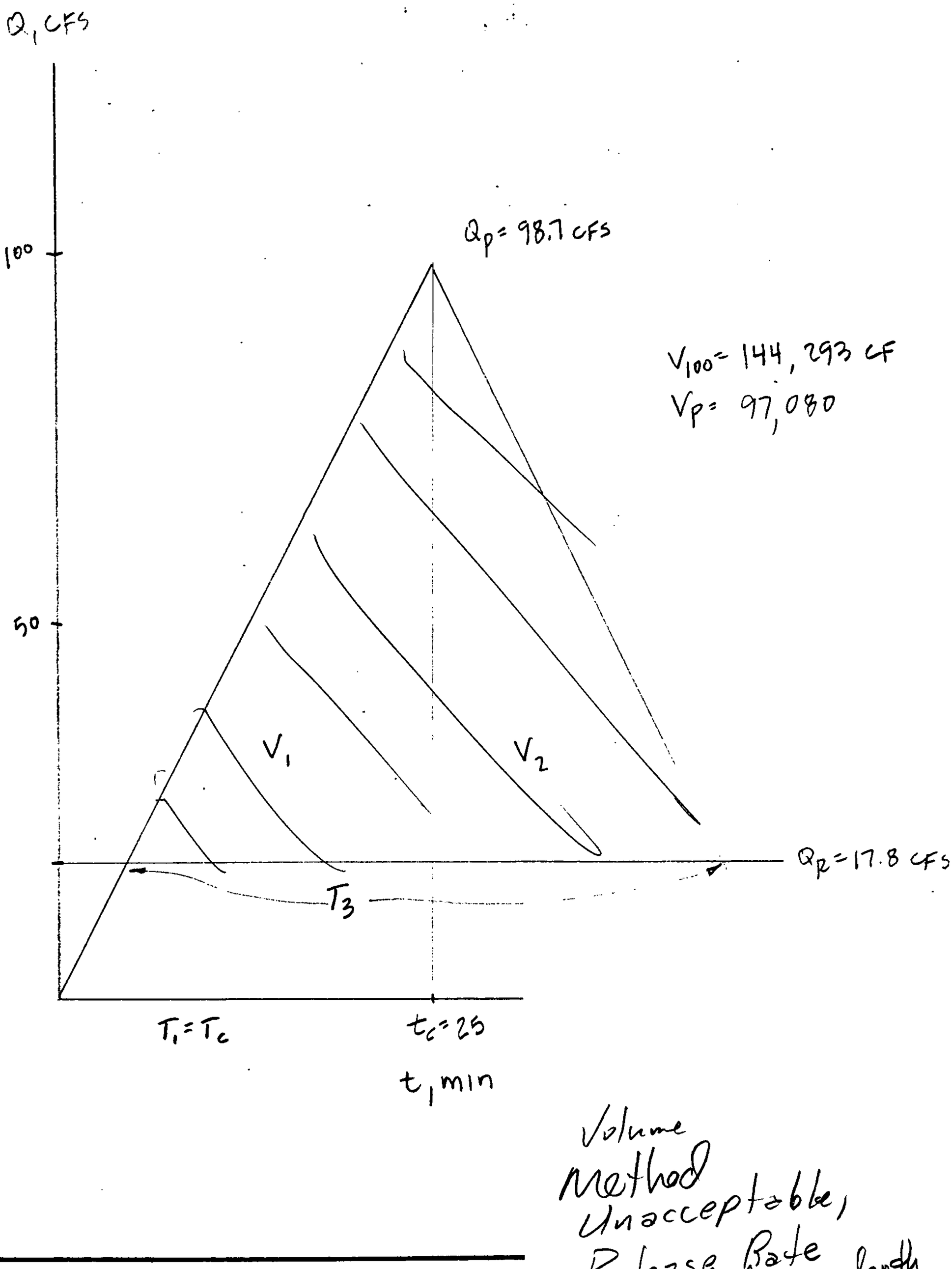
LET $H = 12''$

$L = Q / 3.33 H^{3/2} = \underline{35.9\ FT}$ min

PROJECT NAME LA MERCED DE ATRISCO JOB NO.

SUBJECT

BY PL CK BY APPROVED BY DATE 8-22-91 PAGE 23 OF



Volume Method Unacceptable, Release Rate is depends on depth

APPENDIX "B"

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

CONFERENCE RECAP

DRAINAGE FILE/ZONE ATLAS PAGE NO.: ~~K-10~~ H9 DATE: 9/3/87

PLANNING DIVISION NOS: EPC: _____ DRB: _____

SUBJECT: _____

STREET ADDRESS (IF KNOWN): 98th & Unser SW Corner

SUBDIVISION NAME: Tract A1, El Rancho Atrisco Unit 5

APPROVAL REQUESTED:

✓	PRELIMINARY PLAT	_____	FINAL PLAT
_____	SITE DEVELOPMENT PLAN	_____	BUILDING PERMIT
_____	OTHER	_____	ROUGH GRADING

_____

	WHO	REPRESENTING
ATTENDANCE:	Jim Leymon	Espey Huston
	Jay Olson	" "
	Carlos Montoya	City
	Fred J. Aguirre	City
	Rick Semones	Priestly

FINDINGS:

- An approved drainage report required for subject request.
- Free discharge to the Mirehaven Diversion acceptable per El Rancho Atrisco Unit 5 drainage study.
- Temporary on-site diversions constructed by SAD 215 can be removed with development on-site.
- More information needed on the permanency of the off-site diversion. Recommend discussion with Westland Development
- The drainage report must address ~~the~~ channel stability requirements along the west property line.
- Discharge to Unser is acceptable per arterial street drainage requirements.

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED:	Fred Aguirre	SIGNED:	J. Leymon
TITLE:		TITLE:	
DATE:	9/3/87	DATE:	9/3/87

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL

R. WARD HUNNICUTT, CHAIRMAN
PAT D. HIGDON, VICE-CHAIRMAN
REX FUNK, SECRETARY-TREASURER
DANIEL W. COOK, DIRECTOR
RONALD D. BROWN, DIRECTOR

LARRY A. BLAIR
EXECUTIVE ENGINEER

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority

2600 PROSPECT N.E. - ALBUQUERQUE, N.M. 87107
TELEPHONE (505) 884-2215

May 22, 1989

RECEIVED
MAY 24 1989
ESPEY, HUSTON & ASSOC.

Dennis A. Lorenz, P.E.
Espey, Huston & Associates, Inc.
317 Commercial Street NE
Albuquerque, New Mexico 87102

RE: La Merced de Atrisco

Dear Mr. Lorenz:

AMAFCA has reviewed the Drainage Report for La Merced de Atrisco (dated March, 1989) and has discussed the project with Mr. Fred Aguirre, AMAFCA's designee at the City of Albuquerque. Based on this review we have determined the following:

a. Drainage flow to the Mirehaven Arroyo will not be increased by the proposed subdivision.

b. Under existing conditions, there is adequate capacity in the downstream Ladera Pond No. 13 to accommodate the additional runoff from this subdivision.

c. The City of Albuquerque, Public Works Department, Hydrology Section has approved free discharge for this subdivision, and the design of the subdivision has proceeded based on this approval.

Based on the above information, AMAFCA approves of the drainage report which allows free discharge to the Ladera Channel above Pond No. 13. We recognize that until downstream capacity is increased, that free discharge may place additional drainage restrictions on upstream properties.

Final plans for construction on AMAFCA's right-of-way should be submitted to AMAFCA for approval. A license agreement must also be completed prior to construction.

Sincerely,

Clifford E. Anderson, PE & LS
Drainage Engineer

cc: Rick Semones, Presley Company of New Mexico
Fred Aguirre, Hydrologist, City of Albuquerque

KEN SCHULTZ
MAYOR

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 28, 1989

RECEIVED
MAY 1989
ESPEY, HUSTON & ASSOC.

Dennis E. Lorenz, P.E.
Espey, Huston, Inc.
317 Commercial Street, NE
Albuquerque, New Mexico 87102

RE: GRADING AND DRAINAGE REPORT FOR LA MERCED DE ATRISCO, SUBMITTED MARCH 23, 1989, FOR PRELIMINARY PLAT APPROVAL (H-9/D1E)

Dear Mr. Lorenz,

I have reviewed your submittal, referred to above, and have the following comments concerning it:

1. Please address the offsite flows properly. These flows must be quantified for fully developed conditions upstream and accepted as a permanent condition. Should the upstream landowners agree to divert all flows from this site, with the understanding that they will be responsible for making channel improvements all the way to Pond 12, and should you furnish us a report that quantifies these flows and the improvements necessary to divert them, we will be happy to review such an arrangement.

2. For existing, undeveloped conditions, please use a curve number of 70, "range land in fair condition". Runoff will increase to 0.32" from 0.116".

3. For calculating peak flows, please refer to the Mayor's Notice of Emergency Rule, published February 19, 1986, and the DPM Section 22.2,E.1 Peak Rates. Specifically, using the Rational Method for determining the peak flow from offsite Basin B yields Q = 110 cfs, which is far greater than the 47.4 cfs in your report.

4. Please remember that Q in = Q out. At the upstream end of the asphalt channel shown in section A-A, AP 12, you estimate the flow to be 92.4 cfs. At the downstream end of the channel, which has collected runoff along the way, you estimate the flow at 68.0 cfs.

5. On page 8 of the report, you estimate the increase in volume caused by development of this site to be 0.5 acre-feet. Using a curve number of 70 for undeveloped, a curve number of 82 for developed conditions, and guessing that the size of the tract is 57.9 acres, I calculate the increase in runoff to be 2.23 acre-feet. If I use your CN = 61 for undeveloped conditions, the increase in runoff volume is 3.22 acre-feet. Would you establish what the proportionate volume increase should be based upon the size of your site as a portion of the drainage basin which uses Pond No. 13?

If you have any questions, please call me at 768-2650.

Cordially,

G. Stuart Reeder, P.E.
C.E./Hydrology Section

GSR
(WP+516)

RECEIVED
MAY - 6 1988
ESPEY, HUSTON & ASSOC.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR KEN SCHULTZ
CHIEF ADMINISTRATIVE OFFICER GENE ROMO
DEPUTY CAO PUBLIC SERVICES FRANK MARTINEZ
DEPUTY CAO PLANNING/DEVELOPMENT BILL MUELLER

May 2, 1988

Dennis Lorenz, P.E.
Espey, Huston & Associates, Inc.
317 Commercial Street, NE
Albuquerque, New Mexico 87102

RE: DRAINAGE REPORT FOR LA MERCED DE ATRISCO (H-9/D1E)

Dear Mr. Lorenz:

The following items need to be addressed for the referenced site:

1. The subdivision west diversion berm was never construction as shown for the Unser Road drawings. Please show how the subdivision will be protected from the west off-site flows.

2. Please submit a new drainage plan which corresponds with the last updated plat submitted.

3. Please address items 4 and 5 of my letter dated December 15, 1987.

Should you have any questions regarding this project, please call me at 768-2650.

Cordially,

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

xc: Chuck Easterling, Easterling & Assoc.
Cliff Anderson, AMAFCA
Leroy Chavez, Westland Development

CAM/bsj

AN EQUAL OPPORTUNITY EMPLOYER

10013

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

December 15, 1987

Dennis Lorenz, P.E.
Espey, Huston & Associates, Inc.
317 Commercial Street, NE
Albuquerque, New Mexico 87102

RE: DRAINAGE REPORT FOR LA MERCED DE ATRISCO
(H-9/D1E) RECEIVED DECEMBER 14, 1987

Dear Mr. Lorenz:

I have reviewed the referenced plan and forward the following comments:

1. The following items need to be corrected concerning the HEC II run.

   A. Please indicate start and stop points on the cross section.

   B. Sections should not cross each other. Please review the location of Section 6.

   C. The computed top widths need to be consistent between sections. For example, Section 8 has a top width of 360 ft. However, Section 7 has a top width of 120 feet.

2. The off-site berms were originally constructed to protect Unser Boulevard not as a protection for a subdivision. The hydraulic capacity of the berm has been examined. However, the construction method and adequacy of the berm needs to be addressed. Using the 100 year discharge of 47.4 cfs places the design of the berm under DPM criteria (Berms & Levees 22.3 pg 91).

3. The drainage report must address channel stability requirements along the west property line per the City Drainage Ordinance. The following references are available at this office for review:

   A. Engineering Analysis of Fluvial Systems by Simons, Li & Associates (1982)

   B. Design Guidelines and Criteria Channels and Hydraulic Structures on Sandy Soil by Simons, Li & Associates (1981)

   C. National Engineering Handbook, Section 3 (Second Edition) Sedimentation The Soil Conservation Service

   D. A.S.C.E. Journal - Erosion Risk Analysis for Southwestern Arroyo by Peter Lagasse

The following reports have dealt with channel stability for a particular site and they are on file at our office.

   A. Aggradation/Degradation Analysis of Piedras Marcadas Arroyo - Simons, Li & Associates, Inc. (1985)

   B. Calabacillas Arroyo Drainage Management Plan - Resource Technology, Inc. (1987)

   C. Bear Canyon Bank Stability - Leedshill-Herkenhoff, Inc. (1986)

   D. Hydraulic and Sediment Transport Analysis of Excavation in Calabacillas Arroyo (1985)

   E. Bank Stability Study West Branch Calabacillas Arroyo - Leedshill-Herkenhoff, Inc. (1986)

   F. Erosion Study to Determine Boundaries For Adjacent Development Calabacillas Arroyo - Simons, Li & Associates, Inc. (1983)

4. I am having difficulty understanding the table on Sheet 12. The design discharge in both 98th Street and Unser Boulevard needs to be for the developed condition. Please address the street cross sections which were used to evaluate water depth. Please address what is meant by the column headings.

5. Please address why a weir formula was not used on page 13 of the report. A weir situation occurs with very shallow depths versus a orifice equation.

Should you have any questions, please call me at 768-2650.

Cordially,

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

CAM/bsj

ESPEY,
HUSTON &
ASSOCIATES, INC.
Engineering & Environmental Consultants

December 14, 1987

Mr. Carlos Montoya, P.E.
City/County Floodplain Administrator
City of Albuquerque
P. O. Box 1293
Albuquerque, New Mexico 87103

SUBJECT: Drainage Report for La Merced de Atrisco (H9/DIE)
EH&A Job No. 10073

Dear Carlos:

Submitted herewith for review and approval is the updated drainage report for the subject project. I have reviewed your comment letter dated December 9, 1987 and have the following response:

1. Design capacity calculations for the offsite diversion berm are provided in the report. A drainage covenant will be provided if required.

2. As discussed with Fred Aguirre, the future storm drainage system that may be required across Tract A-2-A is not required by this project.

3. Pad elevations and critical spot elevations are provided on the plan to identify retaining wall requirements.

4. Street depth and inlet capacity data are provided on page 12 and 13 of the calculations.

5. Exhibit "II" does not exist. The report text has been revised.

6. Street depth data is provided on page 10 of the calculations for the following streets:

   a. The curve on Francisco Navarro (AP 26)
   b. Intersection of Don Fernando Duran and Francisco Navarro (AP 8)
   c. Intersection of Pedro Cubero Place and Diego de Penalosa (AP 27)

7. DPM charts were utilized for inlet capacity (see page 12 of the calculations).

8. The flowrates at AP 13 and AP 17 differ as a result of the greater time of concentration and lower composite curve number at AP 17.

9. Easement and covenant will be provided for the inteim swale prior to work order request.

10. As per our discussion with Fred Aguirre, the requirement for a transition at the interface between the asphalt swale and existing rundown is noted on the plan(sheet 2 of 2).

11. Plains Electric will be consulted on the crossing of their easement with interim drainage facilities.

12. The drainage of Lots 58-68, 19-26, and 9-19 is described on the plan.

13. The existing inlet on 98th Street at Atrisquenos Street is located near the property line return. Curb and gutter return will be located 9 feet east, which should allow for standard location of the inlet. If this is not the case, proper detail or relocation will be coordinated with design hydrology prior to work order.

The only outstanding item is the treatment/setback requirement along the east side of the Mirehaven Arroyo. Per our meeting of December 10, 1987 with Fred Aguirre, you committed to research an acceptable method of establishing a setback line. We are willing and eager to assist you in any way we can. Please call me as soon as you are ready to meet and discuss your results.

Sincerely,

Dennis A. Lorenz, P.E.

/kh

cc: Rick Semones, Presley Company of NM

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

December 9, 1987

Dennis Lorenz, P.E.
Espey, Huston & Associates, Inc.
317 Commercial Street, NE
Albuquerque, New Mexico 87102

RE: DRAINAGE REPORT FOR LA MERCED DE ATRISCO
(H-9/D1E) RECEIVED NOVEMBER 20, 1987

Dear Mr. Lorenz:

I have reviewed the referenced plan and forward the following comments:

1. Referencing our pre-design of September 3, 1987, we requested the following information, however, it was not included in the report:

   a. "More information needed on the permanency of the off-site diversion." The berms were originally constructed to protect Unser Boulevard. The berms will now be used to protect the subdivision. We should have information on its capacity and adequacy. ✓

   b. "The drainage report must address channel stability requirements along the west property line." We need to review how the floodplain limits were determined and where the prudent line is established. WORK W/ FED

2. The El Rancho Atrisco Phase V Conceptual Drainage Plan by Easterling & Associates indicates a storm drain outfall instead of an asphalt channel to the Ladera System. Your site is a large runoff contributor to this storm drain system. Therefore, some type of financial responsibility rests with your development. We need at minimum a conceptual drawing indicating the required infrastructures needed for the final outfall system. N/A

3. Please show pad elevations on the lots. We will use this information to determine retaining wall and lot ponding requirements. ✓

4. 98th Street and Unser Boulevard are arterial streets. Please address the capacity of the streets using the arterial street requirements. Please address if the streets were designed for a fully developed condition. PROVIDED IN REPT ✓

5. I was unable to find "Exhibit II" as indicated on Page 7. ✓

6. The depth of flow should be checked on the following streets.

   A. The curve for Francisco Navarro. ✓
   B. The intersection of Don Fernando Duran and Francisco Navarro. PROVIDED ✓
   C. The intersection of Pedro Cubero Place and Diego De Penalosa. ✓

7. Please use the DPM charts to determine the capacity of the inlets. PROVIDED ✓

8. Sheet 4 and 5 of the Developed Conditions indicate AP 13 has a 100 year at 74.7 cfs, however, AP 17 has a 100 year at 57.6 cfs. There seems to be an inconsistency. FLOW OF 74.7 IS TO DRAINAGE CHECK

9. If the asphalt channel is used prior to Work Order, we would need a public drainage easement and a drainage covenant for maintenance responsibility. O/K

10. Please show more detail at the interface of the asphalt channel and the Ladera rundown. ✓

11. Any work in the PNM easement would require an encroachment agreement from PNM. O/K

12. How will Lots 58 - 68, 19 - 26 and 9 - 19 drain? Will a retaining wall be necessary?

show pads : walls ✓

13. The existing inlet at 98th Street and Atrisquenos Street appears too close to the street curve. Please address this situation.

of/pond ✓

Should you have any questions regarding my comments, please call me at 768-2650.

Cordially,

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

CAM/bsj

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

RECEIVED
APR 29 1988
ESPEY, HUSTON & ASSOC.

MAYOR
KEN SCHULTZ

CHIEF ADMINISTRATIVE OFFICER
GENE ROMO

DEPUTY CAO PUBLIC SERVICES
FRANK MARTINEZ

DEPUTY CAO PLANNING/DEVELOPMENT
BILL MUELLER

April 26, 1988

Charles M. Easterling, P.E.
Easterling & Associates, Inc.
5643 Paradise Boulevard, NW
Albuquerque, New Mexico 87114

RE: DRAINAGE PLAN FOR LA MERCED DE ATRISCO
(H-9/D1E)

Dear Mr. Easterling:

This letter will document our meetings, comments, and approvals for the Mirehaven Erosion Study.

1. The report dated January 26, 1987, is approved.

2. The 20 foot prudent limit was established by this report. However, we were unable to set this limit in a field survey. Therefore, we concluded that the prudent limit would extend from the arroyo bank to the south property line of the subdivision.

3. The prudent limit concept is a temporary measure until the permanent improvements are made. Any future upstream development will require channel improvements at the Merced De Atrisco Subdivision.

4. The following items need to be addressed with the removal of portions of the south bank of the arroyo:

   a. Written concurrence from Westland Development.
   b. Need to indicate the area that needs to be removed.
   c. We will need to field check the work as it is being accomplished. Please contact this office when the work is to be accomplished.

5. At the subdivision west property line, a diversion is to be constructed for the offsite flows. Will this construction have an adverse affect on the Prudent Line?

6. Please show the Prudent Line on the subdivision plat.

Should you have any questions regarding this project, please call me at 768-2650.

Cordially,

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

xc: Dennis Lorenz, Espey, Huston & Assoc.
Cliff Anderson, AMAFCA
Leroy Chavez, Westland Development

CAM/bsj

Rick Semone

NMCE EDIFB 2 : 1988

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR KEN SCHULTZ

CHIEF ADMINISTRATIVE OFFICER GENE ROMO

DEPUTY CAO PUBLIC SERVICES FRANK MARTINEZ

DEPUTY CAO PLANNING/DEVELOPMENT BILL MUELLER

February 22, 1988

RECEIVED

MAR 7 1988

ESPEY, HUSTON & ASSOC.

Chuck Easterling, P.E.
Easterling & Associates, Inc.
5643 Paradise Boulevard, NW
Albuquerque, New Mexico 87114

RE: DRAINAGE PLAN FOR MIREHAVEN EROSION STUDY (H-9)
RECEIVED JANUARY 26, 1988

Dear Mr. Easterling:

The above referenced plan dated January 26, 1988 is approved. Please be advised of the following conditions:

1. We are in the process of determining the "bank line" and the 20 foot prudent line in the field. Using this information, we will determine the platting limits for the subdivision.

2. The prudent limit is a temporary measure until the permanent improvement is made.

3. The maintenance of the prudent limit is an issue which needs to be discussed by all parties.

4. I sent comments to Espey, Huston on December 15, 1987, which still need to be addressed. These items need to be addressed prior to work order approval. Items dealing with the arroyo are being finalized by yourself.

Should you have any questions regarding this project, please call mea t 768-2650.

Cordially,

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

xc: Dan Sabo, AMAFCA

CAM/bsj CC: DENNIS LORENZ, ESPEY HUSTON.

AN EQUAL OPPORTUNITY EMPLOYER

WESTLAND DEVELOPMENT CO., INC.

401 Coors Blvd. N.W., Albuquerque, New Mexico 87105
Phone (505) 831-9600

March 1, 1989

RECEIVED

MAR 0 3 1989

ESPEY, HUSTON & ASSOC.

Mr. Jim Leymon, P.E.
Division Manager
Espey, Huston & Associates, Inc.
317 Commercial St., NE
Albuquerque, NM 87102

RE: La Merced de Atrisco Subdivision at 98th Street and Unser Blvd.

Dear Jim:

This is in response to your letter dated February 15, 1989, and will serve as our understanding and condition of approval of your request.

With regard to the temporary earthen berm/swale along the Western boundary, Westland will allow Presley to enter and build this system. We would need to have Presley be responsible for the maintenance and indemnify Westland from any liability that may arise from this improvement.

Westland will also allow Presley to enter our property and make the minor grading to the Mirehaven Arroyo. However, before doing this we would like to see exactly how much dirt is to be moved and where it will be placed.

Lastly, with regard to the temporary drainage swale on the South, Westland will need to know the amount of flow expected to be discharged at this location. Our concern is that when we develop the area to the South, we will be stuck with carrying these waters through our development. Depending on the amount of water, we may be stuck with building costly storm drain to carry Presley's waters. There's a chance we may not even connect up with Atrisquenos Street. Maybe these waters can be routed into Hurtado Place over to Unser. We are willing to work with you.

I would suspect an easement agreement would be required for the swale on the West and out of the South to set out liability and maintenance responsibilities and reclamation. Also I would ask to get a copy of the report by Easterling and Associates on the Mirehaven Arroyo.

Should you have any questions, please do not hesitate to contact me.

Sincerely,

Leroy J. Chavez
Project Engineer

cc: Rick Simones, Precley Company

LJC/bd
LAHERCED

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 29, 1995

Rick Beltramo, PE
AVID Engineering, Inc
6100 Seagull Ln NE Suite 102
Albuquerque, NM 87109

RE: ENGINEER'S CERTIFICATION FOR LAS LOMITAS IIB (H-9/D1E)
RECEIVED MARCH 22, 1995 FOR FINANCIAL GUARANTY RELEASE
ENGINEER'S STAMP DATED 3/21/95

Dear Mr. Beltramo:

Based on the information included in the submittal referenced above, City Hydrology accepts the Engineer's Certification of grading & drainage for City Project Number 4422.92. Contact the DRC Chairman, Billy Goolsby, for the Financial Guaranty Release.

If I can be of further assistance, You may contact me at 768-2727.

Sincerely,

John P. Curtin, P.E.
Civil Engineer/Hydrology

c: Andrew Garcia
Billy Goolsby, CPN 4422.92
Jeff Garrett, Presley Corp, 1909 Carlisle NE, 87110

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

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Las Lomitas — ZONE ATLAS/DRAINAGE FILE# H-9 H/11/E

LEGAL DESCRIPTION: Unit IIB - Las Lomitas Subdivision

CITY ADDRESS: S.W. Corner of Unser & 98th Street

ENGINEERING FIRM: AVID Engineering, Inc. — CONTACT: James V. Domenick or Rick Belham

ADDRESS: 6100 Seagull Ln., NE, Suite 102, 87109 — PHONE: 881-5357

OWNER: Presley Corp. — CONTACT: Charles Caldwell / JEFF GODBEY

ADDRESS: 1909 Carlisle NE, Alb., NM 87110 — PHONE: (602)820-8245

ARCHITECT: NA — CONTACT: NA

ADDRESS: NA — PHONE: NA

SURVEYOR: Aldrich Surveying — CONTACT: Tim Aldrich

ADDRESS: P.O. Box 30701, Alb., NM 87190 — PHONE: 884-1990

CONTRACTOR: RUSS PITNEY — CONTACT: ERNEST BLAIR

ADDRESS: — PHONE:

PRE-DESIGN MEETING:

____X YES

____ NO

____ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. 92-0207

EPC NO.

PROJECT NO. 4422.92

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAIN PLAN

____ GRADING PLAN

____ EROSION CONTROL PLAN

XX ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

____ SECTOR PLAN APPROVAL

____ SKETCH PLAT APPROVAL

____ PRELIMINARY PLAT APPROVAL

____ SITE DEVELOPMENT PLAN APPROVAL

____ FINAL PLAT APPROVAL

____ BUILDING PERMIT APPROVAL

____ FOUNDATION PERMIT APPROVAL

X CERTIFICATE OF OCCUPANCY APPROVAL

____ ROUGH GRADING PERMIT APPROVAL

____ GRADING/PAVING PERMIT APPROVAL

____X OTHER Eng Cert. (SPECIFY)

DATE SUBMITTED: 3/21/95

BY: [signature]

REV. 10/85

22

95014292

QUITCLAIM DEED

04117

The ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY (AMAFCA), a political subdivision of the State of New Mexico, for consideration paid, quitclaims to Presley Companies of New Mexico, the following described easement in Bernalillo County, New Mexico:

> The floodway and storm drainage easement that was filed for public record in Bernalillo County, New Mexico under document number 94065072 on the 17th day of May 1994 and encumbers Lots 1 through 14, Lot 32, Lot 33, Lot 34, Lot 55, Lot 56 and Lot 57 all in Block 7, Las Lomitas Subdivision Unit IIB as filed for Public Record in Bernalillo County, New Mexico on the 5th day of May 1994 in Volume 94-C Folio 147.

Witness its hand and seal this 26 day of January, 1995.

Geneiva Meeker, Chairman
Board of Directors

ATTEST: _____
Ronald D. Brown, Secretary

ACKNOWLEDGEMENT FOR PUBLIC AGENCY

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD
1995 FEB 10 PM 2:13
BK 95-4 PG 4117
JUDY D. WOODARD
CO. CLERK & EX-OFFICIO RECORDER

The foregoing instrument was acknowledged before me this 26 day of January, 1995 by Geneiva Meeker, Chairman, Board of Directors of the Albuquerque Metropolitan Arroyo Flood Control Authority, a political subdivision of the State of New Mexico.

(SEAL)

_____
Notary Public

My commission expires: May 22, 1995

H-9

Author: John P. Curtin at CABQ-PUBWORKS
Date: 2/16/95 2:18 PM
Priority: Normal
TO: Peter A. Chang
BCC: John P. Curtin
Subject: Las Lomitas Unit IIB - CPN 4422.92
---------- Message Contents ----------

Peter:

Based on the letter & calculations from AVID dated February 14, 1995; City Hydrology has no objections to lowering the sidewalks 1". This will cause the property line to be .92' higher than the flowline.

John P. Curtin 768-2727

AVID ENGINEERING, INC.

Civil • Structural • Transportation

H9/D1E

February 14, 1995

Mr. John Curtin, P.E.
City of Albuquerque
Hydrology Department
P.O. Box 1293
Albuquerque, NM 87102

Re: LAS LOMITAS IIB - ANALYSIS FOR REDUCED STREET SECTION DEPTH

H-9 98th Unser

Dear Mr. Curtin:

During the construction of Unit IIB, the water meter pads were incorrectly installed 1" too low at the sidewalk interface. The Construction Division will accept the pads if the sidewalk can be lowered the corresponding 1". Hydrology Department approval is required. Submitted is the necessary hydraulic analysis which justifies lowering the sidewalk.

Analysis is based on reviewing street flow hydraulics at critical locations and determining if the reduced section meets drainage standards. The drainage standard is to contain a possible hydraulic jump within the available ROW. This analysis will not compute sequent depth, but will compute total energy (E), a more conservative approach.

Three streets were analyzed, Corte de Viento, Corte de Aguila, and Camino del Venado (see exhibit attached) at locations of maximum flow. Flow rates were taken from the approved Las Lomitas Drainage Report (revised table included). In all cases, the total energy is contained within the reduced street section.

See summary of street flows and depths in Table II.

6100 Seagull St. NE • Suite 102 • Albuquerque, New Mexico 87109 • (505) 881-5357

CONCLUSION:

The hydraulic analysis has shown that the reduced section is sufficient to contain the proposed flow rates. AVID recommends approval on the basis that the reduced section sacrifices freeboard capacity only and does not justify the expense and delay required to reconstruct the meter pads. AVID is requesting approval from Hydrology Department to allow the sidewalks to be lowered 1".

Sincerely,

David a Aube...

Dave Aube "Ob"

DA/cs

cc: Jeff Garrett
Ernest Blair

TABLE II

SUMMARY OF STREET FLOWS AND DEPTHS
REVISED FEB 14, 1995, TO SHOW ENERGY GRADE DEPTHS

STREET	AP	Q100 (CFS)	STREET WIDTH	SLOPE %	STREET CAPACITY	DEPTH OF FLOW	CURB TYPE	ENERGY GRADE DEPTH
CAMINO DEL VENADO	6	35.0	32	2.8	70	0.45	STANDARD	0.84
CAMINO DEL VENADO	7	65.0	32	2.8	70	0.67	STANDARD	1.21
CORTE DE AGUILA	9	15.0	28	2.4	120	0.36	STANDARD	0.57
CORTE DEL VIENTO	10	16.0	32	2.0	120	0.37	STANDARD	0.56

NOTES:
1) FLOW DEPTHS ARE FROM PLATE 22.3 D-1 OF THE DPM
OR HAND CALCULATIONS
2) THIS IS A REVISED TABLE SHOWING NEW DEPTHS OF FLOW IN STREET
AND ALSO SHOWING THE ENERGY GRADE DEPTHS

E was not checked when streets were originally designed. AP 7 has already been constructed.

AVID ENGINEERING, INC.

CAMINO DEL VENADO

Q_{100} = 35.0 cfs

S = 2.8%

d = .45'

V = 5 fps > FROM PLATE 22.3 D-1 DPM.

$E = d + \frac{V^2}{2g} = .45 + \frac{5^2}{2(32.2)} = .84'$

AP 7 Q = 65 d = .55' V = 6.5fps E = 1.21'

CORTE DE AGUILA.

Q_{100} = 15.0 cfs.

S = 2.4%

d = .36' HAND CALCULATED

V = 3.7 fps.

$E = .36 + \frac{3.7^2}{2(32.2)} = .57'$

CORTE DEL VIENTO

Q_{100} = 16 cfs.

S = 2.0%

d = .37'

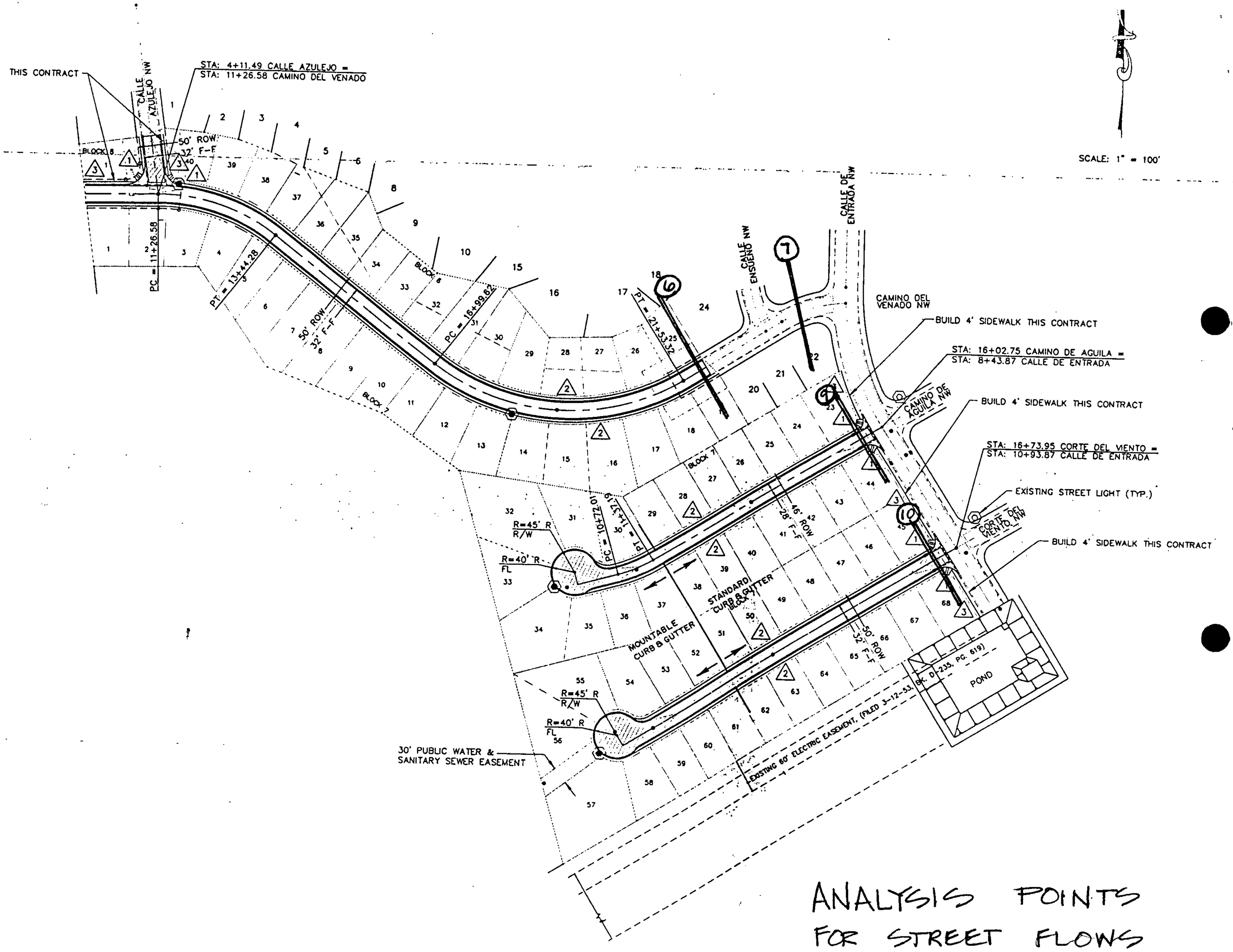
V = 3.5 fps > PLATE 22.3 D-1 DPM.

$E = .37 + \frac{3.5^2}{2(32.2)} = .56'$

PROJECT NAME _____ SHEET _____ OF _____

PROJECT NO. _____ BY _____ DATE _____

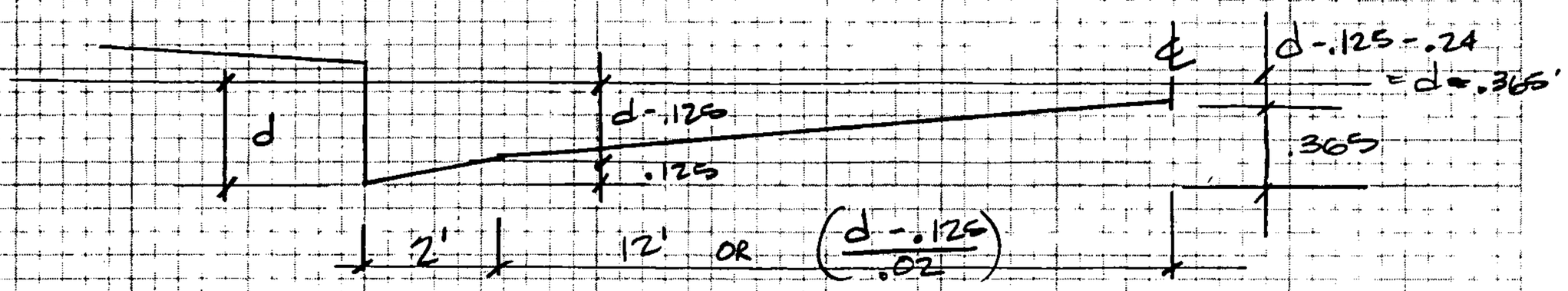
SUBJECT _____ CH'D _____ DATE _____



ANALYSIS POINTS FOR STREET FLOWS

AVID ENGINEERING, INC.

FLOW DEPTHS



ASSUME OVER CROWN SECTION.

$$\tfrac{1}{2}A = \frac{(d + d-.125)}{2}\,2' + \left(\frac{(d-.125)2 - .24}{2}\right)12'$$

$$A = 28d - 6.13$$

$$\tfrac{1}{2}P = d + 2 + 12$$

$$P = 2d + 28$$

$$Q = \left(\frac{1.486}{.017}\right)\frac{[28d - 6.13]^{5/3}}{(2d+28)^{2/3}}\,S^{1/2}.$$

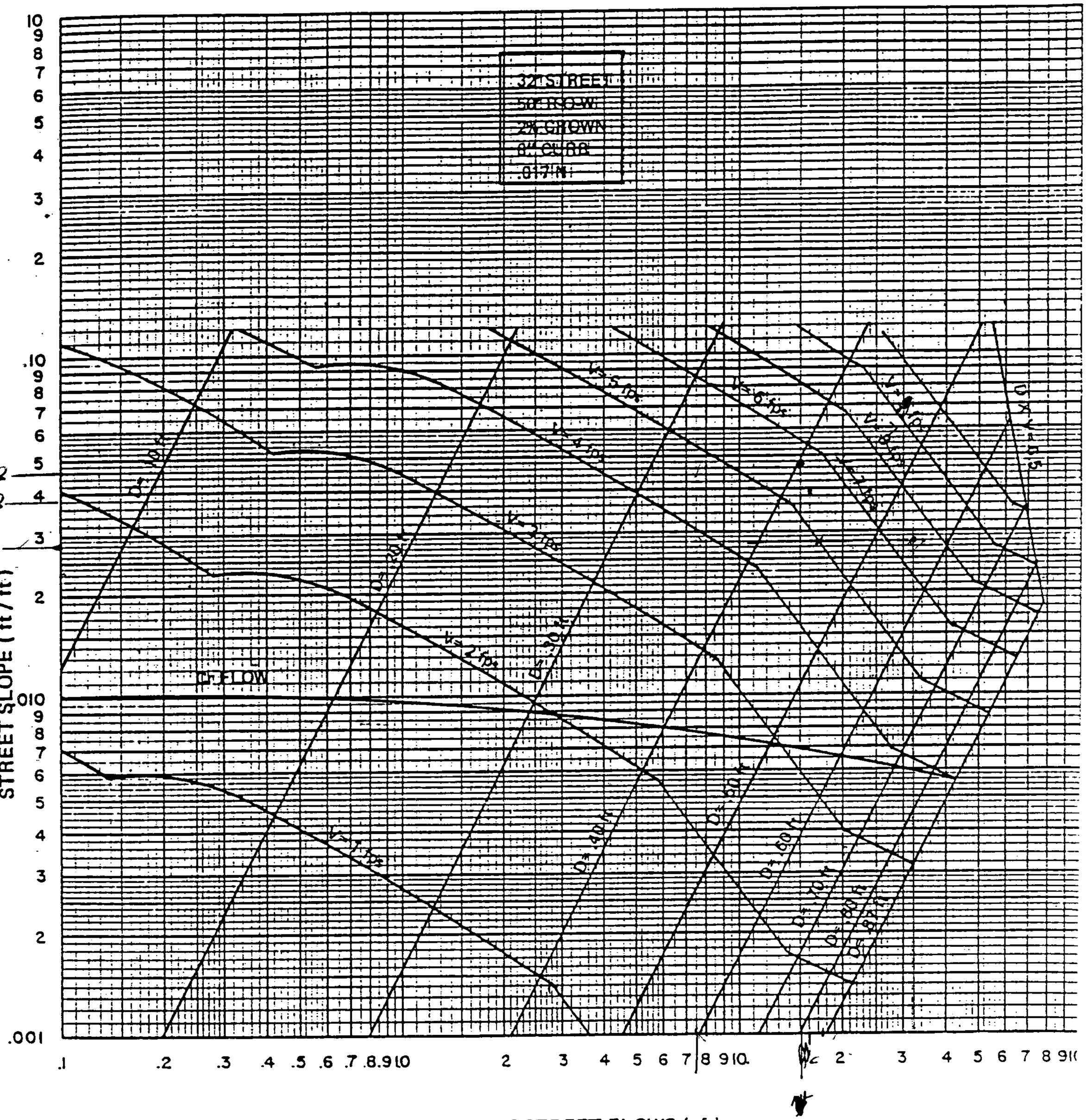
$$V = \frac{Q}{A} = \left(\frac{1.486}{0.017}\right)\left(\frac{28d - 6.13}{2d+28}\right)^{2/3} S^{1/2}$$

PROJECT NAME _____ SHEET _____ OF _____

PROJECT NO. _____ BY _____ DATE _____

SUBJECT _____ CH'D _____ DATE _____

STREET CAPACITY



ALBUQUERQUE
NEW MEXICO
1706

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

August 10, 1994

Richard Bennett
Caldwell Project Mgmt Inc
1930 S Alma School Rd. #B-214
Mesa, AZ 85210

RE: GRADING & EROSION CONTROL PLAN FOR LAS LOMITAS, UNIT 2B (H9-D1E)
RECEIVED AUGUST 4, 1994 FOR STOCKPILE APPROVAL
ENGINEER'S STAMP DATED 8/3/94

Dear Mr. Bennett:

Based on the information included in the submittal referenced above, City Hydrology approved the stockpile for this project.

The Engineer's Certification for Las Lomitas, Unit 2B must include the stockpile area. Include all erosion control improvements used to keep sediment within the stockpile area.

If you have any questions about this project, You may contact me at 768-2727.

Sincerely,

John P. Curtin

John P. Curtin, P.E.
Civil Engineer/Hydrology

c: Larry Caudill, C.O.A. Environmental Health Department
James Domenick; AVID; 6100 Seagull St NE #102; Albq, NM 87109

WPHYD/8171/jpc

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

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Las Lomitas ZONE ATLAS/DRAINAGE FILE# H-9 101E

LEGAL DESCRIPTION: Unit IIB - Las Lomitas Subdivision

CITY ADDRESS: S.W. Corner of Unser & 98th Street

ENGINEERING FIRM: AVID Engineering, Inc. CONTACT: James V. Domenick

ADDRESS: 6100 Seagull Ln., NE, Suite 102, 87109 PHONE: 881-5357

OWNER: Presley Corp. CONTACT: Charles Caldwell Richard Bennett will Pick up Thursday 8-11-94

ADDRESS: 1909 Carlisle NE, Alb., NM 87110 PHONE: (602)820-8245

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Aldrich Surveying CONTACT: Tim Aldrich

ADDRESS: P.O. Box 30701, Alb., NM 87190 PHONE: 884-1990

CONTRACTOR: None CONTACT: _____

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

____X YES DRB NO. _____

____ NO EPC NO. _____

____ COPY OF CONFERENCE RECAP SHEET PROVIDED PROJECT NO. _____

TYPE OF SUBMITTAL:

____X DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAIN PLAN

X GRADING PLAN

X EROSION CONTROL PLAN

____ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

____ SECTOR PLAN APPROVAL

____ SKETCH PLAT APPROVAL

____ PRELIMINARY PLAT APPROVAL

____ SITE DEVELOPMENT PLAN APPROVAL

____ FINAL PLAT APPROVAL

____ BUILDING PERMIT APPROVAL

____ FOUNDATION PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY APPROVAL

____ ROUGH GRADING PERMIT APPROVAL

____ GRADING/PAVING PERMIT APPROVAL

X X OTHER: STOCKPILE (SPECIFY)

DATE SUBMITTED: 8/3/94

BY: James Domenick

AUG 4 1994

REV. 10/85

AVID ENGINEERING, INC.

Civil • Structural • Transportation

August 3, 1994

Mr. John Curtin, P.E.
Hydrology Division
Public Works Department
P.O. Box 1293
Albuquerque, NM 87103

RE: LAS LOMITAS, UNIT IIB SUBDIVISION
DRB 89-145
PROJECT NUMBER 4422.92
SUBMITTAL OF STOCKPILE PLAN FOR REVIEW

Dear Mr. Curtin:

Enclosed for your review and approval is a plan for stockpiling excess soil during the grading of Las Lomitas, Unit IIB. Westland Corporation, the owner of the adjacent property, has agreed to allow us to stockpile excess soil on their property. The following items are included with this submittal.

- A Drainage Information sheet.
- A drawing showing the proposed stockpile plan and location
- A letter from Presley Companies to you (dated August 2, 1994) describing the stockpile plan in detail.
- A letter from Westland Development Corporation to Richard Bennett confirming their acceptance of the stockpile plan.

Please call me if you have questions or need any additional information to complete your review of the plan.

Sincerely,

James V. Domenick, P.E.
Principal

Enclosure

cc: Richard Bennett

AUG 4 1994

6100 Seagull St. NE • Suite 102 • Albuquerque, New Mexico 87109 • (505) 881-5357

PRESLEY

SOUTHWEST REGION

August 2, 1994

Mr. John P. Curtin
City of Albuquerque,
Hydrology Department
Albuquerque, NM

Dear Mr. Curtin:

The Presley Companies are currently in the process of grading Las Lomitas Phase IIB, located at 98th Street and Unser Blvd. The City of Albuquerque Project No. is 4422.92.

We are requesting by this letter the approval to stockpile excess material from Las Lomitas Phase IIB onto the adjacent property owned by Westland Development Company. Westland Development Company has given us permission to stockpile on their property.

Attached is a plan showing the location of the stockpile, the proposed profile of the stockpile, and a letter from Westland allowing us to stockpile on their property at the plan location.

The dirt shall be hauled to the stockpile by Caterpillar scrapers, in a moist condition, and shall be compacted by the weight of the scrapers. The stockpile shall be maintained in a moist condition while dirt is being placed there.

The stockpile will be no higher than six feel above existing ground, and will be reseeded by the Presley Companies after being placed in stockpile. A wind fence shall be placed on the east and north side of the stockpile.

We shall meet all requirement of the Environmental Health Department.

The stockpile shall become the property of, and be maintained by Westland Development company after the reseeding is complete.

Please contact Richard Bennett of Caldwell Project Management (602) 820-8245 should you have any question regarding this application.

AUG 4 1994

☐ 3025 South 48th Street, Suite 4 • Tempe, Arizona 85282
(602) 893-1000 • FAX (602) 431-1794

☐ 1909 Carlisle Boulevard NE • Albuquerque, New Mexico 87110
(505) 265-5811 • FAX (505) 265-8402

The engineers on the project had planned for this to be a balanced site, but now that the project is under construction, it appears that there will be quite an excess. Your prompt consideration of this application will hopefully keep us from having to stop operations.

Best regards,

Charles W. Reynolds,
President,
Southwest Region

Westland Development Co., Inc.

401 Coors Blvd. N.W.
Albuquerque, New Mexico 87121
(505) 831-9600
FAX (505) 831-4865
1-800-726-3250

August 1, 1994

Richard Bennett
Caldwell Project Management Inc.
1930 S Alma School Rd. #B-214
Mesa, AZ 85210

RE: ACCEPTANCE OF DIRT STOCKPILE

Dear Richard,

This letter is to follow up on our discussions regarding the above referenced matter.

Westland agrees to accept the dirt stockpile to be located as indicated on the attached map.

It is understood that The Presley Companies will be responsible for all necessary permits and will reseed and place a wind fence on the east and north side of the stockpile.

Should you have any questions please call.

Sincerely,

Leroy J. Chavez
Project Engineer

AUG 4 1994

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

July 18, 1994

James V. Domenick
AVID Engineering Inc.
6100 Seagull Ln. NE Suite 102
Albuquerque, NM 87109

RE: REVISED DRAINAGE PLAN FOR LAS LOMITAS UNIT IIB (H9-D1E)
ENGINEER'S STAMP DATED 6/3/94.

Dear Mr. Domenick:

Based on the information provided on your June 29, 1994 resubmittal, the above referenced site is approved for Grading/Paving and Work Order.

Please be advised that prior to Building Permit release, Engineer Certification of the erosion control plan will be required.

Also, prior to release of Financial Guarantees by D.R. C. an Engineer's Certification per the D.P.M. Checklist that the site was built in substantial compliance with the approved plan must be submitted and approved by this office.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya, CE
Engineering Associate

BJM/dl/WPHYD/8171

c: Andrew Garcia
File

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

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Las Lomitas ZONE ATLAS/DRAINAGE FILE# H-9/D1E

LEGAL DESCRIPTION: Unit IIB - Las Lomitas Subdivision

CITY ADDRESS: S.W. Corner of Unser & 98th Street

ENGINEERING FIRM: AVID Engineering, Inc. CONTACT: James V. Domenick

ADDRESS: 6100 Seagull Ln., NE, Suite 102, 87109 PHONE: 881-5357

OWNER: Presley Corp. CONTACT: Charles Caldwell

ADDRESS: 1909 Carlisle NE, Alb., NM 87110 PHONE: (602)820-8245

ARCHITECT: CONTACT:

ADDRESS: PHONE:

SURVEYOR: Aldrich Surveying CONTACT: Tim Aldrich

ADDRESS: P.O. Box 30701, Alb., NM 87190 PHONE: 884-1990

CONTRACTOR: None CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

__X__ YES DRB NO. 89-145

____ NO EPC NO.

____ COPY OF CONFERENCE RECAP SHEET PROVIDED PROJECT NO. 4422.92

TYPE OF SUBMITTAL:

__X__ DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAIN PLAN

_X_ GRADING PLAN

____ EROSION CONTROL PLAN

____ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

____ SECTOR PLAN APPROVAL

____ SKETCH PLAT APPROVAL

____ PRELIMINARY PLAT APPROVAL

____ SITE DEVELOPMENT PLAN APPROVAL

____ FINAL PLAT APPROVAL

____ BUILDING PERMIT APPROVAL

____ FOUNDATION PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY APPROVAL

____ ROUGH GRADING PERMIT APPROVAL

_X_ GRADING/PAVING PERMIT APPROVAL

_X_ X OTHER WORK ORDER (SPECIFY)

DATE SUBMITTED: 6/29/94

BY: James Domenick

JUN 29 1994

AVID ENGINEERING, INC.

Civil • Structural • Transportation

June 28, 1994

Mr Bernie Montoya
Hydrology Division
Public Works Department
P.O. Box 1293
Albuquerque, NM 87103

RE: LAS LOMITAS, UNIT IIB SUBDIVISION
DRB 89-145
PROJECT NUMBER 4422.92
SUBMITTAL OF FINAL GRADING AND DRAINAGE PLAN FOR REVIEW

Dear Mr. Montoya:

Enclosed for your review and approval is the final grading and drainage submittal for Las Lomitas, Unit IIB. Since most sheets in the plan set relate to some aspect of the drainage, we have included the entire set (bound) for your convenience. The site grading plans are on Sheets 7 and 8.

These grading plans are in compliance with the approved drainage report, and are substantially the same as the approved rough grading plans. However, you should note that these final plans have the following changes from the rough grading plans.

- Pad elevations for the lots have been adjusted in many cases, to better balance the earthwork and to provide a more pleasing lot design.
- Mountable roll curb has been included on the upper end of the two cul-de-sacs, where adequate capacity is available to keep the 100-year flow below the top of the roll curb.

None of the drainage basins or calculated flows in the streets or storm drains have been changed from the approved plan. These plans also include the storm drain with the flow rate, velocity, and hydraulic grade line, which you had not seen previously. The plans also have the design of the revised pond outlet, as well as the design for increasing the size of the soil cement pond.

RECEIVED
JUN 29 1994
HYDROLOGY DIVISION

6100 Seagull St. NE • Suite 102 • Albuquerque, New Mexico 87109 • (505) 881-5357

The plans have been approved by the Utility Development and Transportation Development Divisions, so there will not be another full DRC review of the project. When you are ready to approve the plans, please call me and I will deliver the mylars to either Terri Martin or you, as you direct us.

Please call me if you have questions or need any additional information to complete your review of the project.

Sincerely,

James V. Domenick, P.E.
Principal

Enclosure

cc: Charlie Caldwell

H9-DIF

VERBAL

On 6/13/94

To Rick Baltram

PM

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Las Lomitas ZONE ATLAS/DRAINAGE FILE# H-9-D1E

LEGAL DESCRIPTION: Unit IIB - Las Lomitas Subdivision

CITY ADDRESS: S.W. Corner of Unser & 98th Street

ENGINEERING FIRM: AVID Engineering, Inc. CONTACT: James V. Domenick

ADDRESS: 6100 Seagull Ln., NE, Suite 102, 87109 PHONE: 881-5357

OWNER: Presley Corp. CONTACT: Charles Caldwell

ADDRESS: 1909 Carlisle NE, Alb., NM 87110 PHONE: (602)820-8245

ARCHITECT: CONTACT:

ADDRESS: PHONE:

SURVEYOR: Aldrich Surveying CONTACT: Tim Aldrich

ADDRESS: P.O. Box 30701, Alb., NM 87190 PHONE: 884-1990

CONTRACTOR: None CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

X YES DRB NO. 92-0207

____ NO EPC NO.

____ COPY OF CONFERENCE RECAP SHEET PROVIDED PROJECT NO.

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAIN PLAN

X GRADING PLAN

X EROSION CONTROL PLAN

____ ENGINEER'S CERTIFICATION

RECEIVED
JUN - 1 1994

VERBAL on 6/13/94
Stamp date on submittal does not match dates on W.O. plans

DATE SUBMITTED: May 31, 1994

BY: Eric T. Strunk

CHECK TYPE OF APPROVAL SOUGHT:

____ SECTOR PLAN APPROVAL

____ SKETCH PLAT APPROVAL

____ PRELIMINARY PLAT APPROVAL

____ SITE DEVELOPMENT PLAN APPROVAL

____ FINAL PLAT APPROVAL

____ BUILDING PERMIT APPROVAL

____ FOUNDATION PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY APPROVAL

____ ROUGH GRADING PERMIT APPROVAL

X GRADING/PAVING PERMIT APPROVAL

____ OTHER _____ (SPECIFY)

Revised Infrastructure List

AVID ENGINEERING, INC.

Civil • Structural • Transportation

May 31, 1994

Mr. Bernie Montoya
City of Albuquerque
Public Works Department
P.O. Box 1293
Albuquerque, NM 87103

Re: Las Lomitas Unit IIB
Submittal of Details for Outlet Structure Extension

Dear Bernie:

Enclosed is the drainage submittal for the referenced project in response to your March 17, 1994 letter. This submittal constitutes item no. 3 from that letter, which is required as part of the work order plans which were submitted on May 13, 1994. It is our understanding that a separate submittal to you is required prior to your review of the work order plans.

These plans show the revised detention pond at the south end of the project which will be deepened with this work order to accommodate the additional flow volume resulting from the new hydrology. The grading and improvements (soil cement) for the pond as well as the extension of the existing outlet to accommodate the lower bottom depth in the pond. Grading is designed in accordance with the approved drainage report update. The purpose of the 18" cmp extending out to the bottom of the pond is simply to allow the lower area to drain. Most of the discharge at the peak flow in the outlet will take place from the original structure. Therefore, we have placed an orifice plate on the 18" cmp to control the flow.

Please feel free to call me if you have questions about this submittal, or need any additional information.

Sincerely,

Eric T. Stump

Eric T. Stump

JVD:ES:cs
Enclosure

cc: Charlie Caldwell

C:\MISC\LETTERS.JVD

RECEIVED
JUN - 1 1994

6100 Seagull St. NE • Suite 102 • Albuquerque, New Mexico 87109 • (505) 881-5357

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 17, 1994

James V. Domenick
AVID Engineering Inc.
6100 Seagull Ln. NE Suite 102
Albuquerque, NM 87109

RE: GRADING PLAN FOR LAS LOMITAS UNIT IIB (H9-D1E) ENGINEER'S STAMP DATED 4/12/94.

Dear Mr. Domenick:

Based on the information provided on your May 3, 1994 submittal, the above referenced site is approved for Rough Grading.

Please be advised that the erosion control plan must be in place and functioning prior to Building Permit release. Engineer Certification of the erosion control methods will be required.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya

Bernie J. Montoya, CE
Engineering Associate

BJM/dl/WPHYD/8171

c: Andrew Garcia
File

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

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 17, 1994

James V. Domenick
Avid Engineering Inc.
6100 Seagull Lane NE Suite 102
Albuquerque, NM 87109

RE: DRAINAGE PLAN FOR LAS LOMITAS UNIT IIB (H9-D1E)
ENGINEER'S STAMP DATED 2/25/94.

Dear Mr. Domenick:

Based on the information provided on your February 28, 1994 submittal, the above referenced site is approved for Preliminary Plat and Revised Infrastructure List.

Please be advised that prior to Work Order or Final Plat approval, the following comments should be addressed:

1. A detailed grading plan for all the improvements on site and off site.

2. An erosion control plan per the D.P.M. checklist should be submitted.

3. Please include a detail of your orfice control outlet from the pond. Your depth has increased therefore a new detail is required.

If you have any questions, please feel free and call me at 768-2667.

Sincerely,

Bernie J. Montoya, CE
Engineering Associate

BJM/dl/WPHYD/8171

c: Andrew Garcia
File

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

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Las Lomitas ZONE ATLAS/DRAINAGE FILE# H-9 / 8 / 12

LEGAL DESCRIPTION: Unit IIB - Las Lomitas Subdivision

CITY ADDRESS: S.W. Corner of Unser & 98th Street

ENGINEERING FIRM: AVID Engineering, Inc. CONTACT: James V. Domenick

ADDRESS: 6100 Seagull Ln., NE, Suite 102, 87109 PHONE: 881-5357

OWNER: Presley Corp. CONTACT: Charles Caldwell

ADDRESS: 1909 Carlisle NE, Alb., NM 87110 PHONE: (602)820-8245

ARCHITECT: CONTACT:

ADDRESS: PHONE:

SURVEYOR: Aldrich Surveying CONTACT: Tim Aldrich

ADDRESS: P.O. Box 30701, Alb., NM 87190 PHONE: 884-1990

CONTRACTOR: None CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

__X__ YES

____ NO

____ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. 92-0207

EPC NO.

PROJECT NO.

TYPE OF SUBMITTAL:

__X__ DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAIN PLAN

____ GRADING PLAN

____ EROSION CONTROL PLAN

____ ENGINEER'S CERTIFICATION

RECEIVED
FEB 28 1994
HYDROLOGY DIVISION

DATE SUBMITTED: February 25, 1994

BY: James Domenick

CHECK TYPE OF APPROVAL SOUGHT:

____ SECTOR PLAN APPROVAL

____ SKETCH PLAT APPROVAL

____ PRELIMINARY PLAT APPROVAL

____ SITE DEVELOPMENT PLAN APPROVAL

____ FINAL PLAT APPROVAL

____ BUILDING PERMIT APPROVAL

____ FOUNDATION PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY APPROVAL

____ ROUGH GRADING PERMIT APPROVAL

____ GRADING/PAVING PERMIT APPROVAL

__X__ X OTHER Revised Infrastructure List (SPECIFY)

DANIEL W. COOK, CHAIRMAN
PAT D. HIGDON, VICE-CHAIRMAN
RONALD BROWN, SECRETARY-TREASURER
GENEIVA MEEKER, ASST. SECRETARY-TREASURER
MICHAEL MURPHY, DIRECTOR

LARRY A. BLAIR
EXECUTIVE ENGINEER

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority

2600 PROSPECT N.E. - ALBUQUERQUE, N.M. 87107
TELEPHONE (505) 884-2215

December 16, 1993

Mr. Rick Beltramo
AVID Engineering, Inc.
6100 Seagull Street, NE
Suite 102
Albuquerque, NM 87109

RE: Las Lomitas, Unit IIB, Mirehaven Floodplain Analysis

Dear Rick:

AMAFCA has reviewed your submittal dated October 27, 1993, and has the following comments:

1. The Erosion Envelope analysis for the Mirehaven Arroyo is acceptable to AMAFCA. In making this submittal, it is our understanding that you have reviewed this procedure and find that it will provide a safe design for the development adjacent to this arroyo. Your final design should provide any additional analysis that you determine to be appropriate. Please note that the Erosion Envelope procedures have been evolving and the procedures used here may not be applicable to future projects in other areas.

2. It is our understanding that the final design and construction for the permanent lining or arroyo floodwall to protect all lots in the subdivision will be deferred until future upstream or adjacent development is ready to proceed. In the interim, approximately 20 lots will have "blanket drainage easements" and earth berms or filling will protect the remaining subdivision. Even though these facilities will be primarily constructed of earth, they will need to provide long-term protection of adjacent lots.

3. It is our understanding that upstream or adjacent development will be required to fund, or participate in funding, the permanent drainage facilities in this arroyo before they will be allowed to proceed. This will place temporary drainage controls on lands in the watershed.

4. The requirements of the City of Albuquerque will need to be followed regarding the notation of any temporary easements to AMAFCA on the plat. We do not object to a procedure that does not show the temporary easements on the plat, but the City has the final determination in this matter.

5. The berms and levees that may be used to protect this subdivision need to include DPM design criteria. Additional fill may be required between the berm and existing arroyo bank so that earth berms do not experience concentrated flows.

6. The final design of the flood protection adjacent to the arroyo must include a channel profile analysis including critical depth, sequent depth, existing arroyo bed, top of berm, and toe of berm. Rough grading approval may be generated with preliminary estimates of these values, based on typical cross sections.

Please let us know if you require further clarification concerning these comments.

Sincerely,
AMAFCA

Clifford E. Anderson, P.E. & L.S.
Drainage Engineer

CEA:ij

copy: Fred Aguirre, Hydrologist, City of Albuquerque PWD
Gilbert Aldaz, City-County Floodplain Administrator

Gilbert Alaniz
City - County Floodplain Admin.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 14, 1994

Rick Belträmo, P.E.
Avid Engineering
6100 Seagull St. NE
Albuquerque, NM 87109

ENGINEER'S CERTIFICATION FOR LAS LOMITAS UNIT 2A, (H9-D1E),
ENGINEER'S STAMP DATED JANUARY 4, 1994.

Dear Mr. Beltramo:

Based on the information provided on the referenced submittal received January 4, 1993, the plan meets the requirements for Engineer's Certification as required.

If you should have any questions, please do not hesitate to call me at 768-2650.

Cordially,

Gilbert Aldaz, P.E. & P.S.
Civil Engineer/Hydrology

xc: File

wp+8171

PUBLIC WORKS DEPARTMENT

Walter H. Nickerson, Jr., P.E.
Assistant Director Public Works

ENGINEERING GROUP

Telephone (505) 768-2500

Please File 4/9/01E

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN REVIEW COMMITTEE MEETING 03-09-93 1:30 P.M.

PROJECT: Las Lomitas Subdivision Unit II - A Project No. 4422.91

CONSULTANT: AVID Engineering, Inc.

PRESENT: ~~BG~~ Billy Goolsby, DRC Chairman
✓Robert Kane, Utility Development
✓Ed Adams, Transportation Development
✓Bernie Montoya, Hydrology
✓Rick Beltramo, Avid Engineering

COMMENTS:

1. Robert Kane said that the plans need to call out the length for the restrained joints. Also, all references to blocking should be removed.

2. Bernie Montoya provided minor comments that the Consultant noted.

3. Ed Adams provided minor comments that the Consultant noted.

4. DRC Chairman noted that the "Depth of Bury" needs to be called out on the plans. The Consultant made note of the comment.

The Consultant will make corrections noted then submit the mylars, prints and the mark-ups to the Master Scheduler to route for signatures.

BG:vgl(WP+125449)

RECEIVED
MAR 16 1993
HYDROLOGY DIVISION

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

July 18, 1994

James Domenick
AVID Engineering
6100 Seagull Ln. NE
Albuquerque, NM 87109

RE: REVISED GRADING PLAN FOR LOT 20, 21, & 22 BLOCK 7 LAS LOMITAS SUBDIVISION UNIT 11A (H9-D1E) ENGINEER'S STAMP DATED 7/11/94.

Dear Mr. Domenick:

Based on the information provided on your July 12, 1994 submittal, revisions as indicated on your submittal for the above referenced site are acceptable.

Please be advised that Engineer Certification will be required after the grading is completed.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya, CE
Engineering Associate

BJM/dl/WPHYD/8171

c: Andrew Garcia
File

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

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Las Lomitas ZONE ATLAS/DRAINAGE FILE# H-9 / 10 E

LEGAL DESCRIPTION: Las Lomitas Subdivision UNIT II A

CITY ADDRESS: S.W. Corner of Unser & 98th Street

ENGINEERING FIRM: AVID Engineering, Inc. CONTACT: James V. Domenick

ADDRESS: 6100 Seagull Ln., NE, Suite 102, 87109 PHONE: 881-5357

OWNER: Presley Corp. CONTACT: Charles Caldwell

ADDRESS: 1909 Carlisle NE, Alb., NM 87110 PHONE: (602)820-8245

ARCHITECT: CONTACT:

ADDRESS: PHONE:

SURVEYOR: Aldrich Surveying CONTACT: Tim Aldrich

ADDRESS: P.O. Box 30701, Alb., NM 87190 PHONE: 884-1990

CONTRACTOR: None CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

__X__ YES DRB NO. 89-145

____ NO EPC NO.

____ COPY OF CONFERENCE RECAP SHEET PROVIDED PROJECT NO. 4422.91

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAIN PLAN

_X_ GRADING PLAN

____ EROSION CONTROL PLAN

____ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

____ SECTOR PLAN APPROVAL

____ SKETCH PLAT APPROVAL

____ PRELIMINARY PLAT APPROVAL

____ SITE DEVELOPMENT PLAN APPROVAL

____ FINAL PLAT APPROVAL

____ BUILDING PERMIT APPROVAL

____ FOUNDATION PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY APPROVAL

____ ROUGH GRADING PERMIT APPROVAL

_X_ GRADING/PAVING PERMIT APPROVAL

____ OTHER (SPECIFY)

DATE SUBMITTED: 7/11/94

BY: James Domenick

RECEIVED
JUL 12 1994

REV. 10/85

AVID ENGINEERING, INC.

Civil • Structural • Transportation

July 11, 1994

Mr Bernie Montoya
Hydrology Division
Public Works Department
P.O. Box 1293
Albuquerque, NM 87103

RE: LAS LOMITAS, UNIT IIA SUBDIVISION
DRB 89-145. PROJECT NUMBER 4422.91
SUBMITTAL OF REVISED GRADING PLAN FOR REVIEW

Dear Mr. Montoya:

Enclosed for your review and approval is a revised grading plan for three lots within the existing Las Lomitas - Unit IIA subdivision. These lots are within the completed second phase of Las Lomitas, and are adjacent to Las Lomitas - Unit IIB, which is currently in final design review.

When these lots were designed and constructed, it was anticipated that the adjacent lots would be at a higher elevation than they were finally designed. Therefore, the building pads on the three lots in question were set fairly high relative to the adjacent street. We would like to lower the lots by approximately one foot, to make for a more attractive building site. The following items are enclosed for your review.

- A plan showing the existing as-built condition.
- A revised grading plan.
- A location map and legal description.

The proposed changes are in compliance with the approved grading plan, and do not change runoff patters or quantities. The three lots will continue to drain directly to the street. Please call me if you have questions or need any additional information to complete your review of the project.

Sincerely,

James Domenick

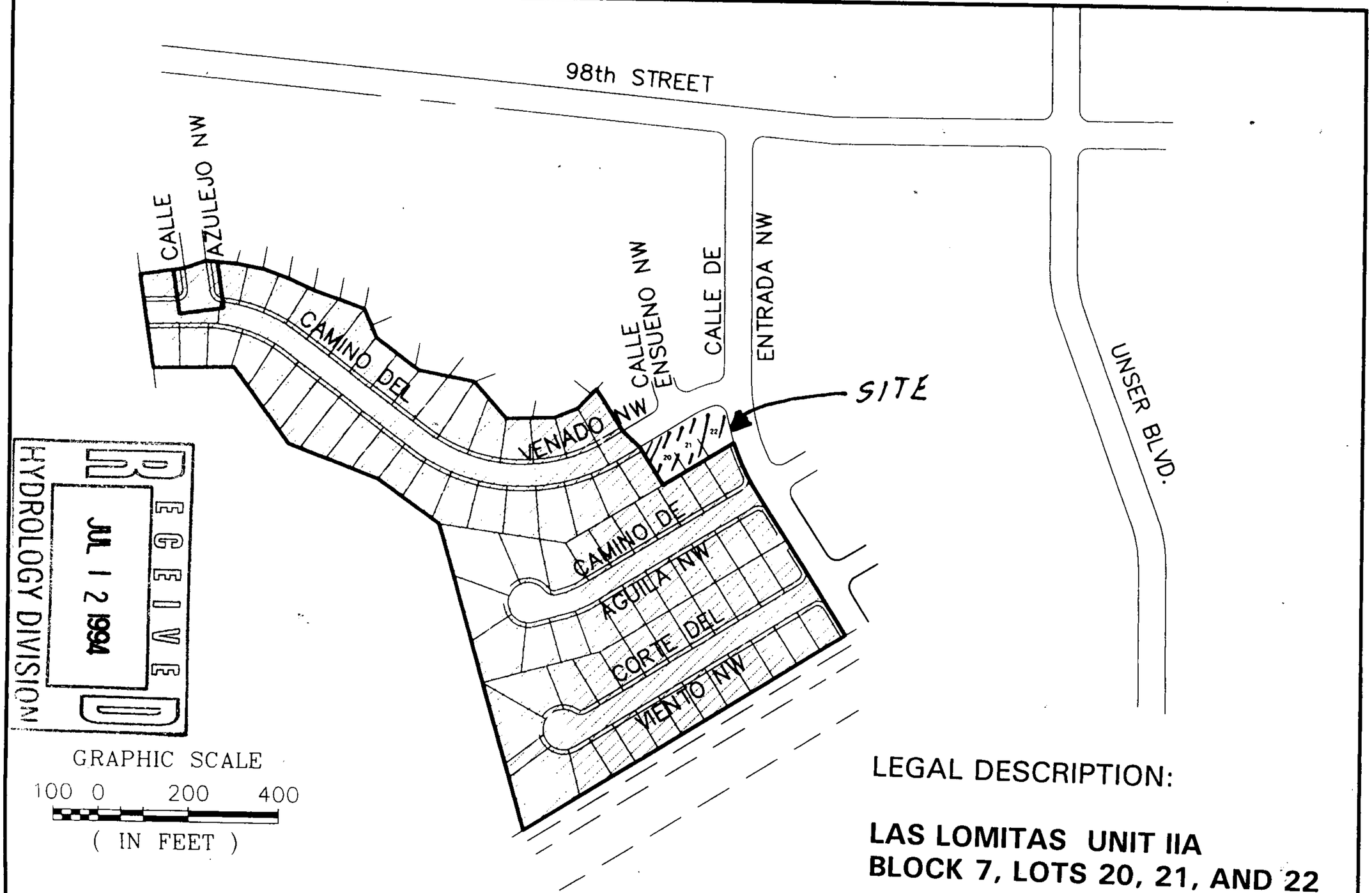
James V. Domenick, P.E.
Principal

RECEIVED
JUL 12 1994
HYDROLOGY DIVISION

Enclosure

cc: Charlie Caldwell

6100 Seagull St. NE • Suite 102 • Albuquerque, New Mexico 87109 • (505) 881-5357

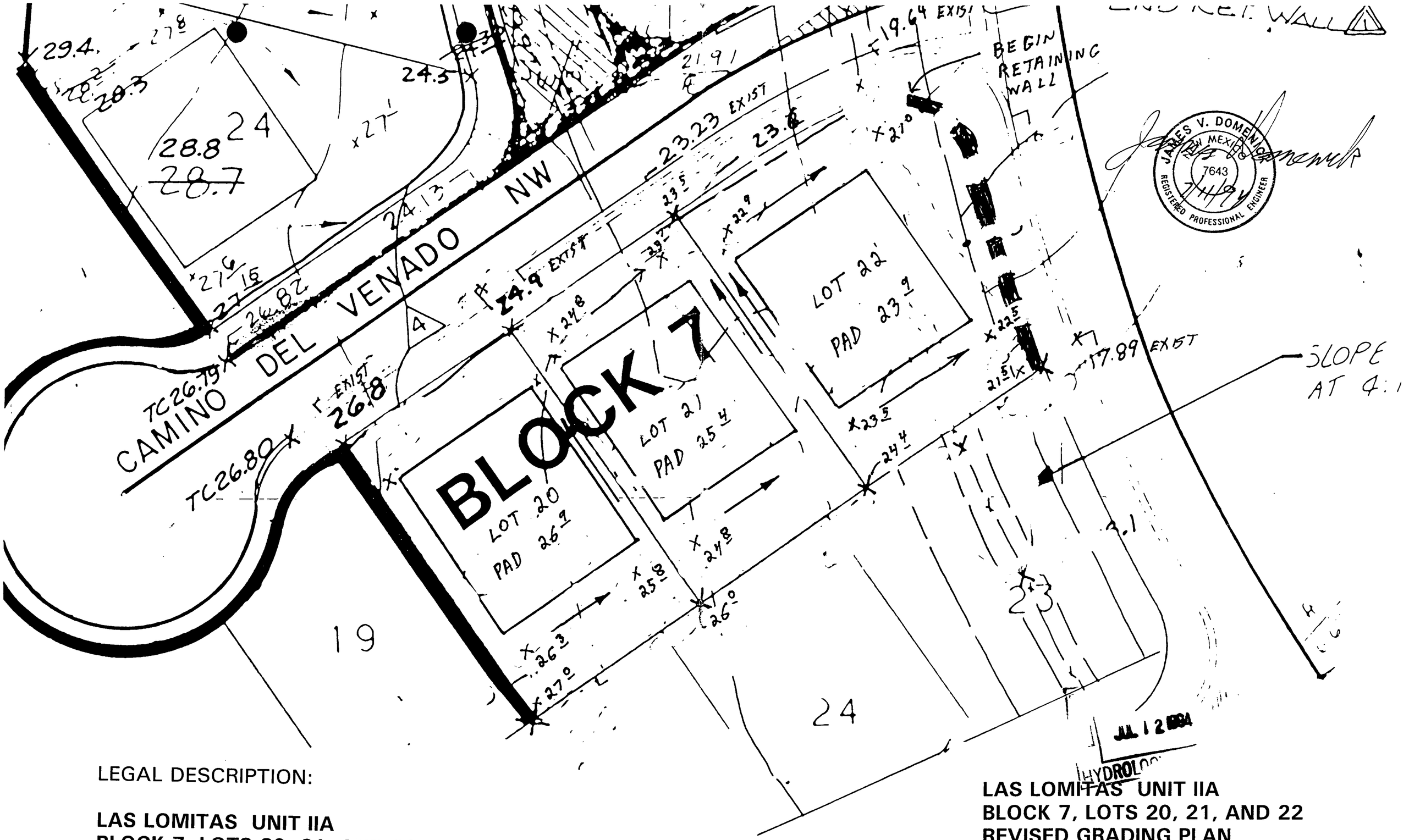


LEGAL DESCRIPTION:

LAS LOMITAS UNIT IIA
BLOCK 7, LOTS 20, 21, AND 22

LOCATION MAP

ZONE ATLAS MAP H-9-Z



LEGAL DESCRIPTION:

LAS LOMITAS UNIT IIA
BLOCK 7, LOTS 20, 21, AND 22

LAS LOMITAS UNIT IIA
BLOCK 7, LOTS 20, 21, AND 22
REVISED GRADING PLAN
JULY 11, 1994

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Las Lomitas, IIA ZONE ATLAS/DRAINAGE FILE # H-9 / D1E

LEGAL DESCRIPTION: Unit IIA- Las Lomitas Subdivision

CITY ADDRESS: S.W. Corner of Unser & 98th Street

ENGINEERING FIRM: AVID Engineering, Inc. CONTACT RICK BELTRAMO

ADDRESS: 6100 Seagull Lane, NE, Suite 102 PHONE: 881-5357
Albuquerque, NM 87109

OWNER: Presley Corp. CONTACT: Charles Caldwell

ADDRESS: 1909 Carlisle NE, Alb., NM 87110 PHONE: (602) 820-8245

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Aldrich Surveying CONTACT: Tim Aldrich

ADDRESS: P.O. Box 30701, Alb., NM 87190 PHONE: 884-1990

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

___ YES DRB NO. 92-0207

___ NO EPC NO. _____

___ COPY OF CONFERENCE RECAP SHEET PROVIDED PROJECT NO. _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAIN PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

XX ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SECTOR PLAN APPROVAL

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

X CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY).

RECEIVED
JAN - 4 1994
HYDROLOGY DIVISION

DATE SUBMITTED JAN 4, 1994

BY: _____

REV. 10/85

LOT 3

AVID ENGINEERING, INC.

Civil • Structural • Transportation

January 4, 1994

Gilbert Aldaz, P.E.,P.S.
City Hydrologist
City of Albuquerque
Public Works Department
Albuquerque, NM 87103

Re: LAS LOMITAS, UNIT IIA - LETTER OF UNDERSTANDING FOR GRADING AND DRAINAGE CERTIFICATION
Reference City Project #4422.91 (H-9/D1E)

Dear Gilbert:

Submitted is the revised grading and drainage certification for Las Lomitas. The new grades shown were surveyed after Richard Bennett, of CPM, and I walked the entire site with the contractor and gave him specific instructions to correct the deficiencies of the site grading. Also, based on your instructions we have also picked up the front lot corners and additional rear yard lot corners.

I hope this meets your approval. If not please let me know f there is anything additional I need to do.

Sincerely,

Rick Beltramo,P.E.
Senior Engineer

Attachments

cc Charles Caldwell, CPM

c:\projects\lomitas\gilbert.wp-1/4/94

6100 Seagull St. NE • Suite 102 • Albuquerque, New Mexico 87109 • (505) 881-5357

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

December 17, 1993

Rick Beltramo, P.E.
Avid Engineering
6100 Seagull St. NE
Albuquerque, NM 87109

ENGINEER'S CERTIFICATION FOR LAS LOMITAS UNIT 2A, (H9-D1E),
ENGINEER'S STAMP DATED NOVEMBER 24, 1993.

Dear Mr. Beltramo:

Based on the information provided on the referenced submittal received December 14, 1993, the plan meets the requirements for financial guarantee release as identified on the infrastructure list.

If you should have any questions, please do not hesitate to call me at 768-2650.

Cordially,

Gilbert Aldaz, P.E. & P.S.
Civil Engineer/Hydrology

xc: LyndaMichelle DeVanti, DRC
Peter Chang, Construction
File

wp+8171

PUBLIC WORKS DEPARTMENT

Walter H. Nickerson, Jr., P.E.
Assistant Director Public Works

ENGINEERING GROUP

Telephone (505) 768-2500

The PRESLEY Companies

SOUTHWEST DIVISION

Gilbert Aldaz
City of Albuquerque

12-16-93

Re: Las Lomitas IIA

Dear Mr. Aldaz:

The lot swales in Las Lomitas IIA will be completed to the City's satisfaction prior to January 1, 1994. If the swales are not constructed and accepted by the City prior to that date, no additional building permits will be released for Las Lomitas Phase IIA, until such completion.

Final guarantees will not be released until grading is complete and accepted by the City.

Sincerely,

Charles W. Reynolds
President, Southwest Division

1909 Carlisle Blvd., N.E., Albuquerque, New Mexico 87110 • (505) 265-5811 • FAX (505) 265-8402

AVID ENGINEERING, INC.

Civil • Structural • Transportation

FAX COVER SHEET

PROJECT: LAS LOMITAS, PHASE IIA SUBDIVISION
DATE: December 15, 1993 2108.00 Construction File

FAX TO: Gilbert Aldaz
FAX #: 768-3692
COMPANY: City of Albuquerque

FAX FROM: Rick Beltramo AVID Engineering, Inc.
PAGES FAXED (including cover sheet): 1

Dear Gilbert:

I have talked with Richard Bennett with CPM (he is Charlie Caldwells partner). His company is directly contracted with Presely and manages several projects for Presely in 3 states. He manages all contracts with consultants and contractors working on Las Lomitas. CPM has the authority to make assurances to the city that the swales will be constructed. Richard can do this by withholding payments to the contractor or by hiring another to do the work.

CPM and Presely are very interested in your suggestion regarding the option of holding building permits until the site grading is in compliance. Richard has stated that Presely will also make the assurances to the city, in writing. Richard has proposed the following:

1) The swales will be completed to the city's satisfaction within a 2 week time frame. After 2 weeks, if the swales are not constructed and accepted by the city no building permits will be released for Las Lomitas Phase IIA.

The 2 week time frame allows Presely some time to rectify the problem even if they have to use another contractor. Because of the difficulty you may have in enforcing restrictions in building permits (working with Code Administration), you might consider the following:

2) Financial guarantees will not be released until grading is complete and accepted by the city. A letter would be sent to LyndaMichelle DeVanti also. This would allow the Work Order to be released, which is Presely's main concern.

The work left to do is not significant and will not be costly, it is mostly a coordination issue with the contractor. I am scheduled to meet with the contractor today to walk the site and detail the work to be done. They will begin work very soon. The assurances given by Presely and CPM are easily within their control.

I have been instructed to draft a letter for Presely Homes signature. Please call me regarding this. Presely Homes, CPM and I appreciate your willingness to work with us. Your suggestions are very positive and beneficial to our effort.

FILE: C:\PROJECTS\LOMITAS\1215.FAX

TO: H-9/DIE LAS LOMITAS
(Submittal 11-24-93)

FROM: G. Aldaz

DATE: 12-14-93

I provided verbal comment to Rick @ AVID on 12-08-93 regarding this submittal concerning grading items required to be addressed

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LOS LOMITAS, 2A ZONE ATLAS/DRNG. FILE #: H9 / D1E

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

LEGAL DESCRIPTION: LOS LOMITAS UNIT 2A

CITY ADDRESS: 98th STREET & UNSER BLVD.

ENGINEERING FIRM: DAVID ENGINEERING CONTACT: RICK BELTRAN

ADDRESS: 6100 SEAGULL ST. NE. PHONE: 881-5357

OWNER: PRESLEY HOMES OF N.M. CONTACT: —

ADDRESS: _____ PHONE: _____

ARCHITECT: NA CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: ALDRICH LAND SURVEYING CONTACT: TIM ALDRICH

ADDRESS: _____ PHONE: _____

CONTRACTOR: CCM CONTACT: JERRY KRAYBILL

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAINAGE PLAN

____ GRADING PLAN

____ EROSION CONTROL PLAN

X ENGINEER'S CERTIFICATION

____ OTHER _____

PRE-DESIGN MEETING:

____ YES

____ NO

____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL

____ 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 APPROVAL

____ GRADING PERMIT APPROVAL

____ PAVING PERMIT APPROVAL

____ S.A.D. DRAINAGE REPORT

____ DRAINAGE REQUIREMENTS

____ OTHER _____ (SPECIFY)

DATE SUBMITTED: 12-13-93

BY: Rick Beltran

RECEIVED
DEC 14 1993
HYDROLOGY DIV.

AVID ENGINEERING, INC.

Civil • Structural • Transportation

December 11, 1993

Gilbert Aldaz, P.E.,P.S.
City Hydrologist
City of Albuquerque
Public Works Department
Albuquerque, NM 87103

Re: LAS LOMITAS, UNIT IIA - GRADING CERTIFICATION

Dear Gilbert:

Re-submitted for your review and approval is the grading certification for phase IIA, Las Lomitas subdivision. Included with this certification is the drainage information sheet and pond capacity analysis. Additional as-built information has been added to the certification drawings as you have requested.

As you have noted some lots have lower pad elevations than the grading plan calls for. For this subdivision, the pads are designed to be as high as is practicable due to the excess earthen material on this job. Some of the lots were lowered by design and some are just lower due to the tolerances of earthwork construction. In all cases the pad elevations are acceptable.

As you have noted, some of the back yard swales do not meet minimum criteria. This may be due to blow sand filling the swales. This can be a significant effect on final grades. Also, wall construction is underway and it is common for the construction activity to alter the final grades. Some of the swales are not constructed correctly. We have notified the contractor to correct this condition. Correction of any deficient swales will be required to obtain FHA approval. I will contact FHA and take the necessary steps to obtain their approval separate from this process. I will copy you on any future as-built information provided for FHA approval.

You have questioned the capacity of the off-site detention pond. I have therefore provided as-built elevations on the pond. I have also provided a revised capacity analysis. In summary the analysis shows that the as-built pond has less capacity than the construction plan. However, the as-built pond has significantly more capacity than was called for in the design report. The design report called for a capacity of 82,900 cubic feet at elevation 5257.00 verses the as-built condition with an elevation of 5257.20. The increase of 0.2 feet is insignificant. The outfall drain invert is higher than the design, but the outfall capacity has not been significantly reduced. In summary the pond is adequate as is (please refer to computations enclosed).

RECEIVED
DEC 14 1993
PROJECT DIVISION

6100 Seagull St. NE • Suite 102 • Albuquerque, New Mexico 87109 • (505) 881-5357

Gilbert Aldaz, P.E., P.S.
December 11, 1993

Site grading substantially meets city criteria for grading and drainage certification approval. On this basis I request approval by your department. I hope that this satisfies your concerns for certification.

As you know the grading and drainage certification is the only item needed for the construction department to issue Work Order release. Please do not delay should you have any problems with this submittal. Please call Charlie Caldwell (602)820-8245 or me. Your assistance in this matter is greatly appreciated.

Sincerely,

Rick Beltramo, P.E.
Project Manager

Enclosures
cc Charles Caldwell, CPM

2108.00 CONSTRUCTION FILE:PROJECTS\LOMITAS\GILBERT.LTR

AVID ENGINEERING, INC.

CAPACITY ANALYSIS FOR LAS LOMITAS DETENTION POND

Computed, Revised Pond Capacity Based on As-Built Elevations. Compute Revised Outfall capacity of Drainage Based on As-Built Elevations.

Survey Provided Dec 9, 1993.

SUMMARY ANALYSIS

	AS-BUILT	DESIGN
POND INVERT =	53.5	53.0
OVERFLOW INVERT =	58.07	58.0
DRAIN PIPE INVERT =	55.14	54.5
POND CAPACITY =	133,076 CF *	146,127 CF * (ELEV 58.0)
100 WSEL =	57.20	56.0
	(SEE COMPUTATIONS, SHEET 2)	
	* CAPACITY INCLUDES SEDIMENT STORAGE	
SEDIMENT STORAGE =	11,000	30,000

RECEIVED
DEC 14 1993
HYDROLOGY DIVISION

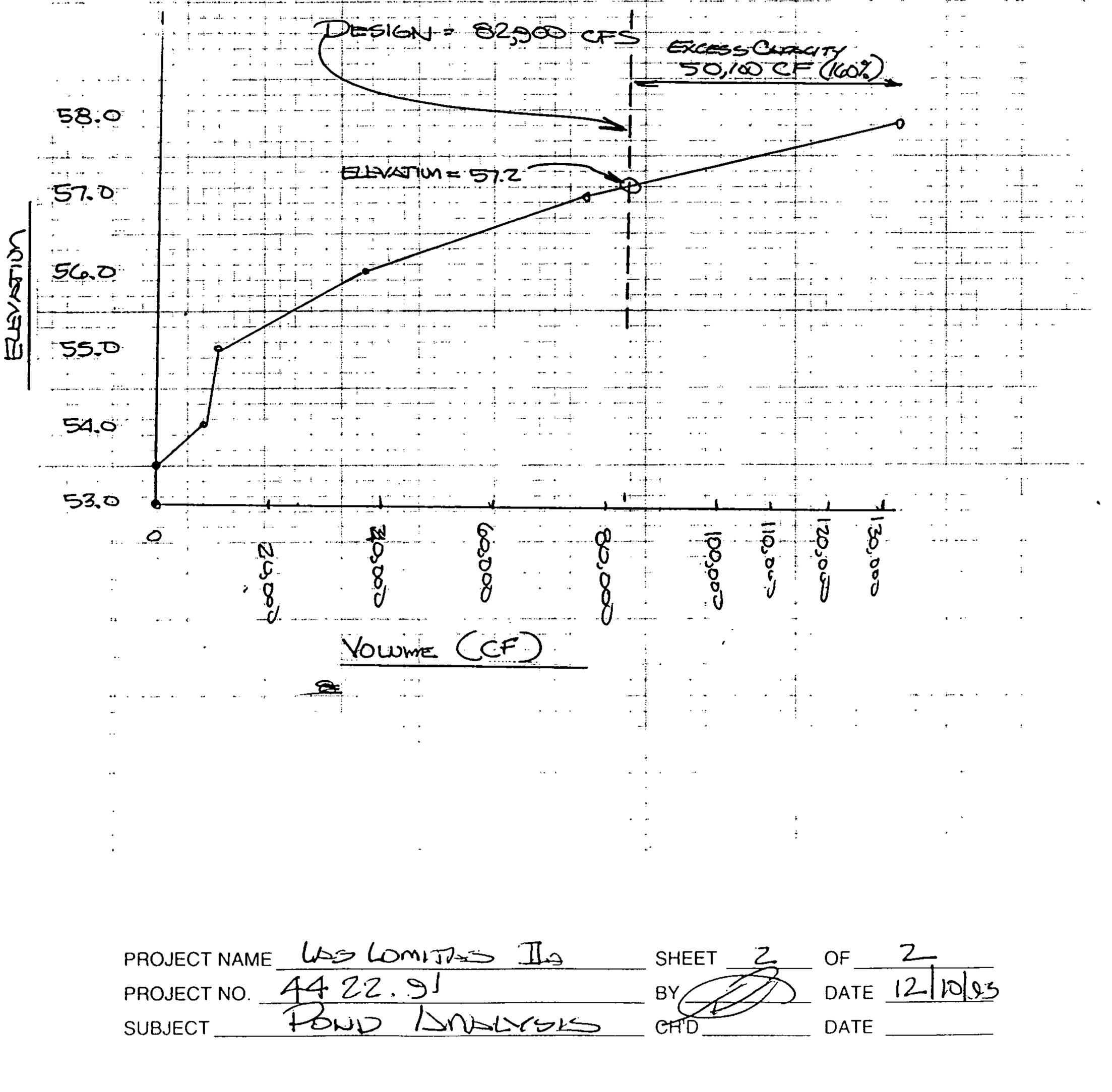
SEDIMENT Storage has been reduced to 11,000 cf, design criteria called for 3,000 cf. Maximum Water Surface ELEVATION has been increased 1.2 ft, to ELEVATION 57.2. Pond Capacity has been reduced to 133,000 CF, 60% greater than design criteria. Based on this information the As-Built condition is adequate.

PROJECT NAME Las Lomitas IIA SHEET 1 OF 2
PROJECT NO 4422.01 BY [signature] DATE 12/10/93
SUBJECT POND ANALYSIS CH'D _____ DATE _____

AVILA ENGINEERING, INC.

REVISED ENTRYWORK ANALYSIS

ELEVATION	AREA (SF)	VOL (CF)	CUMM. VOL (CF)
53.0	0	0	0
53.5	0	825.0	0
54.0	3300	10,207.5	825.0
55.0	17115	25,357.5	11,032.5
56.0	33600	39,465.0	36,390.0	
57.0	45330	57,221.0	75,855.0
58.0	69112		133,076.0



PROJECT NAME Las Lomitas II SHEET 2 OF 2
PROJECT NO. 4422.91 BY [signature] DATE 12/10/93
SUBJECT Pond Analysis CH'D _____ DATE _____

PRIVATE FACILITY
DRAINAGE COVENANT

This Drainage Covenant, between [state the name of the present real property owner exactly as shown on the real estate document conveying title to the present owner and state the legal status of the owner, for example, "single person," "husband and wife," "corporation of the State of _____," "partnership":] The Presley Companies, A California Corporation ("Owner"), whose address is 1909 CARLISLE, N.E., ALBUQUERQUE, N.M. 87110, and the City of Albuquerque, a New Mexico municipal corporation ("City"), whose address is P. O. Box 1293, Albuquerque, New Mexico 87103, is made in Albuquerque, Bernalillo County, New Mexico and is entered into as of the date Owner signs this Covenant.

1. Recital. The Owner is the owner of the following described real property located at [give legal description, and street address:] See Exhibit A, Plat for Las Lomitas Unit II A and Unit II B in Bernalillo County, New Mexico (the "Property").

Pursuant to City ordinances, regulations and other applicable laws, the Owner is required to construct and maintain certain drainage facilities on the Property, and the parties wish to enter into this Covenant to establish the obligations and responsibilities of the parties.

2. Description and Construction of Drainage Facility. The Owner shall construct the following "Drainage Facility" within the Property at the Owner's sole expense in accordance with the standards, plans and specifications approved by the City:

Temporary Drainage Diversion Berm

The Drainage Facility is more particularly described in Exhibit A attached hereto and made a part hereof.

3. Maintenance of Drainage Facility. The Owner shall maintain the Drainage Facility at the Owner's sole cost in accordance with the approved Drainage Report and plans.

4. Benefit to Property. The Owner acknowledges and understands that the Drainage Facility required herein to be constructed on the Owner's property is for the private benefit

APPROVED AS TO FORM
LEGAL DEPT. 8/19/88

and protection of the Owner's property and that failure to maintain such facility could result in damage or loss to the Property.

5. Inspection of Drainage Facility. The City shall have no duty or obligation whatsoever to perform any inspection, maintenance or repair of the Drainage Facility, it being the duty of the Owner, its heirs, successors and assigns to construct and maintain the facility in accordance with approved plans and specifications.

6. Liability of City. The Owner understands and agrees that the City shall not be liable to the Owner, its heirs, successors or assigns, or to any third parties for any damages resulting from the Owner's failure to construct, maintain or repair the Drainage Facility.

7. Indemnification. The Owner owns and controls the Drainage Facility and shall not permit the Drainage Facility to constitute a hazard to the health or safety of the general public. The Owner agrees to indemnify, defend and hold harmless the City, its officials, agents and employees, from any claims, actions, suits or other proceedings arising from or out of the negligent acts or omissions of the Owner, its agents, representatives, contractors or subcontractors or arising from the failure of the Owner, its agents, representatives, contractors or subcontractors to perform any act or duty required of the Owner herein; provided, however, to the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to this Agreement, this Agreement to indemnify will not extend to liability, claims, damages, losses or expenses, including attorney's fees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the respective indemnitee, or the agents or employees of the respective indemnitee; or (2) the giving of or the failure to give direction or instructions by the respective indemnitee, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

8. Assessment. Nothing in this Covenant shall be construed to relieve the Owner, its heirs, assigns and successors from an assessment against the Owner's Property for improvements to the Property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Drainage Facility will not reduce the amount assessed by the City.

9. Binding on Owner's Property. The covenants and obligations of the Owner set forth herein shall be binding on the Owner, its heirs, assigns and successors and on the Owner's Property and constitute covenants running with the Owner's

APPROVED AS TO FORM
LEGAL DEPT. 8/19/88

Property until released by the City. This Covenant can only be released by the City's Chief Administrative Officer with the concurrence of the City Engineer.

10. Entire Covenant. This Covenant contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

11. Changes to Covenant. Changes to this Covenant are not binding unless made in writing, signed by both parties.

12. Effective Date of Covenant. This Covenant shall be effective as of the date of signature of the Owner.

OWNER:

By: _____
Its: President - SW Div.
Dated: 4/15/93

STATE OF New Mexico)
) ss
COUNTY OF Bernalillo)

The foregoing instrument was acknowledged before me this 15 day of April, 1993, by [name of person signing:] President SW Div, [title or capacity, for instance, "President" or "Owner":] The Presley Companies of [name of the entity which owns the Property if other than the individual signing, for instance, the name of the corporation, partnership, or joint venture:] _____.

Sharon K Moore
Notary Public

My Commission Expires:
8/30/94

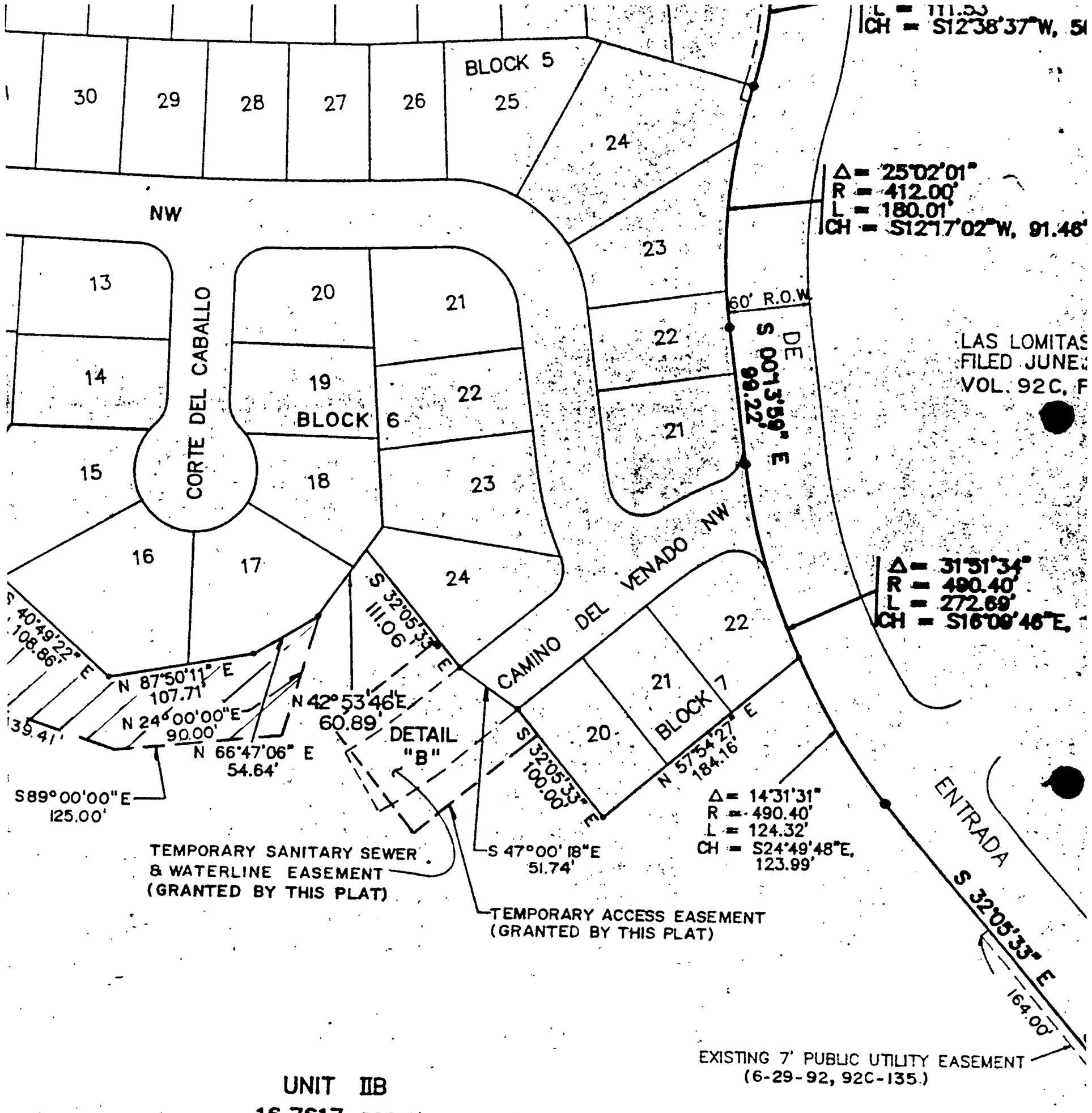
CITY OF ALBUQUERQUE:

Accepted:

By: _____
Title: _____
Dated: _____

[EXHIBIT A ATTACHED]

APPROVED AS TO FORM
LEGAL DEPT. 8/19/88



UNIT IIB

16.7617 acres

AVID ENGINEERING, INC.

Civil • Structural • Transportation

November 24, 1993

Gilbert Aldaz, P.E.
City Hydrologist
City of Albuquerque
Public Works Department
Albuquerque, NM 87103

Re: LAS LOMITAS, UNIT IIA
GRADING CERTIFICATION

Dear Gilbert:

Submitted for your review and approval is the grading certification for phase IIA, Las Lomitas subdivision. Included with this certification is the drainage information sheet.

As you may know the construction division will not accept the Work Order Improvements until you have approved the grading certification. This is not consistent with past project requirements nor is it consistent with past conversations with the construction division regarding this project. This late requirement is causing the owner considerable problems. Through no fault of your own the grading certification has gained significant importance. Your timely response would be greatly appreciated. Should you have any questions regarding this submittal, please call anytime.

Sincerely,

Rick Beltramo, P.E.
Project Manager

RB/cs
Enclosures
cc Charles Caldwell, CPM

Job No. 2108.00
FILE:PROJECTS\LOMITAS\GILBERT.LTR

RECEIVED
NOV 24 1993
HYDROLOGY DIVISION

6100 Seagull St. NE • Suite 102 • Albuquerque, New Mexico 87109 • (505) 881-5357

DRAINAGE INFORMATION SHEET 2100.90

PROJECT TITLE: Las Lomitas, IIA ZONE ATLAS/DRAINAGE FILE # H-9 / D12

LEGAL DESCRIPTION: Unit IIA- Las Lomitas Subdivision

CITY ADDRESS: S.W. Corner of Unser & 98th Street

ENGINEERING FIRM: AVID Engineering, Inc. CONTACT Rick Beltramo

ADDRESS: 6100 Seagull Lane, NE, Suite 102 PHONE: 881-5357
Albuquerque, NM 87109

OWNER: Presley Corp. CONTACT: Charles Caldwell

ADDRESS: 1909 Carlisle NE, Alb., NM 87110 PHONE: (602) 820-8245

ARCHITECT: NA CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Aldrich Surveying CONTACT: Tim Aldrich

ADDRESS: P.O. Box 30701, Alb., NM 87190 PHONE: 884-1990

CONTRACTOR: CCM CONTACT: _____

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

— YES

___ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. 92-0207

EPC NO. _____

PROJECT NO. 4422.91

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAIN PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

XX ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SECTOR PLAN APPROVAL

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

XX CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY).

RECEIVED
NOV 24 1993
HYDROLOGY SECTION

DATE SUBMITTED: NOV 23, 1993

BY: _____

REV. 10/85

AVID ENGINEERING, INC.
Civil • Structural • Transportation
6100 Seagull Lane NE • Suite 102
Albuquerque, NM 87109 • (505) 881-5357

LETTER OF TRANSMITTAL

TO: Gilbert Aldaz City County Bldg 3rd Floor, Hydrology Dept.	DATE: 4/23/93
	PROJECT: LOS LOMITAS II-A
	PROJECT NO.: 2108.50
ATTN:	
RE:	

WE ARE SENDING:

QTY.	DESCRIPTION	FOR
1	Set Original Plans	Revision
1	Set Street Hydraulics Calcs.	Revision

REMARKS: Gilbert, You were right, the streets cannot carry the design flow in the mountable C&G. I have analyzed and redesigned the transition points from mountable to Std. C&G. The revisions are identified by "1".

BY: Ed Beltran

RECEIVED: Suzanne Jaz DATE: 4-23-93

If enclosures are not as noted, kindly notify us at once.

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Las Lomitas, IIA ZONE ATLAS/DRAINAGE FILE # H-9

LEGAL DESCRIPTION: Unit IIA- Las Lomitas Subdivision

CITY ADDRESS: S.W. Corner of Unser & 98th Street

ENGINEERING FIRM: AVID Engineering, Inc. CONTACT Rick Beltramo

ADDRESS: 6100 Seagull Lane, NE, Suite 102 PHONE: 881-5357
Albuquerque, NM 87109

OWNER: Presley Corp. CONTACT: Charles Caldwell

ADDRESS: 1909 Carlisle NE, Alb., NM 87110 PHONE: (602) 820-8245

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Aldrich Surveying CONTACT: Tim Aldrich

ADDRESS: P.O. Box 30701, Alb., NM 87190 PHONE: 884-1990

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

___ YES

___ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. 92-0207

EPC NO. _____

PROJECT NO. _____

TYPE OF SUBMITTAL:

_X_ DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAIN PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SECTOR PLAN APPROVAL

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

_X_ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY).

DATE SUBMITTED April 23, 1993

BY: _____

REV. 10/85

LAS LOMITAS, PHASE IIA — 4/20/13

ANALYZE STREET FLOW CAPACITIES — Pg 1/2

CAMINO PALISADO

Q_{100} @ AP 1 = 21.4 cfs

S = .0184

d = .42 > .33 ALLOWABLE [FAIL]

DETERMINE POINT WHERE MOUNTABLE CAPACITY EXCEEDES DESIGN FLOW

CAPACITY = 10 cfs @ d = .33' @ S = .0236

TRANSITION TO STD @ ~~Sta~~ 6+11.

→ USE STA 6+00

CALLE ENSUENO

Q_{100} @ AP 4 = 34.0

S = .0077

d = .55' < .67 [OK]

STD C-6

Q_{100} @ AP 3 = 29.2

S = .0077

d = .52 > .33 allowable [FAIL]

Determine Point Where Mountable Capacity Exceeds Design Flow.

Capacity = 11.0 cfs @ S = .025 @ d = .33'

Transition To STD @ Sta 6+50

USE STA 6+50

4/20/13 PS 2/2

Camino Del Venado

$Q_{100} = 54.8$ cfs

$S = 0.0367$

$d = 0.5 < 0.67$ [Ok]

All Phase IIA is Sto. C & G

Note: Street capacities are for 32' FF streets
Analysis Using DPM section 22.2
Pat 22.3, D-1.

Calculations By

File 2108.50

AVID ENGINEERING, INC.
Civil • Structural • Transportation
6100 Seagull Lane NE • Suite 102
Albuquerque, NM 87109 • (505) 881-5357

LETTER OF TRANSMITTAL

TO: Gilbert Lopez, PE & PS City Hydrologist 3rd Floor City County Bldg	DATE: 4/6/93 PROJECT: Los Lomitas, Phase A PROJECT NO.: 2108.50
ATTN:	
RE:	

WE ARE SENDING:

QTY.	DESCRIPTION	FOR
1	Den Easement & Covenant	

RECEIVED
APR - 6 1993

REMARKS:

BY: Lisa Dutton

RECEIVED: Dolores Lopez DATE: 4/6/93

If enclosures are not as noted, kindly notify us at once.

JUDY D. WOODWARD, County Clerk of Bernalillo County, New Mexico, hereby certify that the foregoing is a true, correct and full copy of the instrument herewith set out as appears of record in my office.

Dated this 23rd day of March 19 93

JUDY D. WOODWARD
Bernalillo County Clerk
By _____
Deputy Clerk

0002236

093 028757

(NOT DEVELOPER OWNED PROPERTY)

PRIVATE FACILITY DRAINAGE COVENANT AND RESERVATION OF DRAINAGE EASEMENT

This Drainage Covenant, between [state the name of the present real property owner exactly as shown on the real estate document conveying title to the present owner and state the legal status of the owner, for example, "single person," "husband and wife," "corporation of the State of _____," "partnership":] Westland Development Co., Inc., a Corporation of the State of New Mexico ("Owner"), whose address is 401 Coors Blvd. NW, Albuquerque, NM 87121; [state the name of the developer or subdivider required to construct the drainage facility and state the legal status of the developer, for example, "single person," "husband and wife," "corporation of the State of _____," "partnership":] The Presley Companies, A California Corporation ("Developer"), whose address is _____, and the City of Albuquerque, a New Mexico municipal corporation ("City"), whose address is P. O. Box 1293, Albuquerque, New Mexico 87103, is made in Albuquerque, Bernalillo County, New Mexico and is entered into as of the date Owner and Developer sign this Covenant.

1. Recital. The Owner is the owner of the following described real property located at [give legal description, and street address:] See Exhibit C in Bernalillo County, New Mexico (the "Property").

Pursuant to City ordinances, regulations and other applicable laws, the Developer is required to construct and maintain certain drainage facilities and the Owner, for good and valuable consideration received from the Developer, is willing to allow construction and maintenance of the Drainage Facility on its Property, and the parties wish to enter into this Covenant to establish the obligations and responsibilities of the parties.

2. Description and Construction of Drainage Facility. The Developer shall construct the following "Drainage Facility" within the Property at the Developer's sole expense in accordance with the standards, plans and specifications approved by the City:

Detention/Siltation Pond

The Drainage Facility is more particularly described in Exhibit A attached hereto and made a part hereof.

(APPROVED BY LEGAL AS TO FORM ONLY 9-6-88)

3. Reservation of Easement. The Owner, for itself, its heirs, successors and assigns, jointly and severally, hereby grants to Developer, its heirs, successors and assigns, jointly and severally, a perpetual easement over and across a portion of the Owner's property for the benefit of [describe the lots, parcels or tracts which are to be benefited by the Drainage Facility and easement] Las Lomitas Subdivision for the purpose of permitting the flow, conveyance, and discharge of storm water runoff and for the purpose of permitting ingress and egress for the construction, maintenance and repair of the drainage facility. The land affected by the grant of this easement is more particularly described as:

SEE EXHIBIT "A"

4. Maintenance of Drainage Facility. The Developer shall maintain the Drainage Facility and Easement at the Developer's sole cost in accordance with the approved Drainage Report and plans. In the event the Developer fails to maintain the Drainage Facility, Owner agrees that it shall be responsible for maintenance of the Drainage Facility and Easement in accordance with the approved Drainage Report and plans.

5. Benefit to Property. The Developer and Owner acknowledge and understand that the Drainage Facility required herein to be constructed is for the private benefit and protection of the Developer's property and that failure to maintain such facility could result in damage or loss to the Owner's Property and to the property of Developer.

6. Inspection of Drainage Facility. The City shall have no duty or obligation whatsoever to perform any inspection, maintenance or repair of the Drainage Facility, it being the duty of the Developer, its heirs, successors and assigns to construct and maintain the facility in accordance with approved plans and specifications.

7. Liability of City. The Developer and Owner understand and agree that the City shall not be liable to the Developer or the Owner, or their respective heirs, successors or assigns, or to any third parties for any damages resulting from the Developer's or Owner's failure to construct, maintain or repair the Drainage Facility.

8. Indemnification. The Developer owns and controls the Drainage Facility and shall not permit the Drainage Facility to constitute a hazard to the health or safety of the general public. The Developer agrees to indemnify, defend and hold harmless the City, its officials, agents and employees, and the Owner, its heirs, successors and assigns from any claims, actions, suits or other proceedings arising from or out of the negligent acts or omissions of the Developer, its agents, representatives, contractors or subcontractors or arising from the failure of the Developer, its agents, representatives, contractors or subcontractors to perform any act or duty required of the Developer herein; provided, however, to the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to this Agreement, this Agreement to indemnify will not extend to liability, claims, damages, losses or expenses, including attorney's fees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the respective indemnitee, or the agents or employees of the respective indemnitee; or (2) the giving of or the failure to give direction or instructions by the respective indemnitee, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

9. Assessment. Nothing in this Easement and Covenant shall be construed to relieve the Owner or Developer, or their respective heirs, assigns and successors from an assessment against the Owner's or Developer's property for improvements under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Drainage Facility will not reduce the amount assessed by the City.

10. Binding on Owner's Property. The easement, covenants and obligations of the Owner and Developer set forth herein shall be binding on the Owner and Developer, and their respective heirs, assigns and successors and on the Owner's Property and constitute covenants running with the Owner's Property until released by the City's Chief Administrative Officer as approved by the City Engineer.

11. Entire Covenant. This Covenant contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

0002239

12. Changes to Covenant. Changes to this Covenant are not binding unless made in writing, signed by all parties.

13. Effective Date of Covenant. This Covenant shall be effective as of the date of signature of the Owner and Developer.

DEVELOPER:

By: _____
Its: PRESIDENT
Dated: MARCH 18 93

OWNER: Westland Development Co., Inc.

By: Barbara Page
Its: President & C.E.O.
Dated: _____

STATE OF New Mexico)
) ss
COUNTY OF Bernalillo)

The foregoing instrument was acknowledged before me this 12th day of March, 19 93, by [name of person signing:] Barbara Page, [title or capacity, for instance, "President" or "Owner":] President & C.E.O. of [name of the entity which owns the Property if other than the individual signing, for instance, the name of the corporation, partnership, or joint venture:] Westland Development Co., Inc. a New Mexico Corporation

M. Helen Sanchez
Notary Public

My Commission Expires:
5-17-95

OFFICIAL SEAL
M. HELEN SANCHEZ
NOTARY PUBLIC - STATE OF NEW MEXICO
Notary Bond Filed With Secretary of State
My Commission Expires 5-17-95

STATE OF ARIZONA)
) ss
COUNTY OF MARICOPA)

The foregoing instrument was acknowledged before me this 18th day of March, 1993, by [name of person signing:] _____, [title or capacity, for instance, "President" or "Owner":] PRESIDENT of [the Developer if other than an individual, for instance, the name of the corporation, partnership, or joint venture:] The Presley Companies Southwest

Maureen W. Maxwell
Notary Public

My Commission Expires:

_____

OFFICIAL SEAL
MAUREEN W. MAXWELL
NOTARY PUBLIC - STATE OF ARIZONA
MARICOPA COUNTY
My Commission Expires May 23, 1996

CITY OF ALBUQUERQUE:

Accepted:

By: _____
Director Public Works Department
Dated: _____

[EXHIBIT A ATTACHED]

A Temporary Drainage Easement situate within projected Section 9, Township 10 North, Range 2 East, New Mexico Principal Meridian, within the Town of Atrisco Grant, City of Albuquerque, Bernalillo County, New Mexico, being within unplatted Lands of Westland Development Company, Inc. and Las Lomitas Unit II 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 January 20, 1993 in Volume 93C, Folio 20, and being more particularly described by New Mexico State Plane Grid bearings and ground distances as follows:

BEGINNING at the northeast corner of the herein described Easement, said point being common with the northwest corner of LAS LOMITAS UNIT II;

THENCE along the west boundary of said Las Lomitas Unit II S08°19'34"E, 620.40 feet to a point;

THENCE leaving said west line N78°35'35"E, 84.85 feet to a point;

THENCE S11°24'26"E, 10.00 feet;

THENCE S78°35'35"W, 85.39 feet to a point, said point being on the west boundary line of said Las Lomitas Unit II;

THENCE along said west line S08°19'34"E, 131.12 feet to a point, said point being a southwest corner of said Las Lomitas Unit II;

THENCE S08°19'34"E, 20.00 feet to the southeast corner;

THENCE N80°19'34"W, 360.00 feet to the southwest corner;

THENCE N09°40'26"E, 30.00 feet to a point;

THENCE S86°19'34"E, 125.00 feet to a point;

THENCE N11°28'35"W, 100.00 feet to a point;

THENCE N27°41'26"E, 145.00 feet to a point;

THENCE N09°40'26"E, 230.00 feet to a point;

THENCE S83°31'17"W, 155.08 feet to a point;

THENCE N08°19'34"W, 35.00 feet to a point;

THENCE N81°40'26"E, 155.00 feet to a point;

THENCE N08°19'34"W, 205.00 feet to the northwest corner;

THENCE S85°58'46"E, 61.42 feet to the point of beginning and containing 2.4146 acres more or less.

EXHIBIT A

0002242

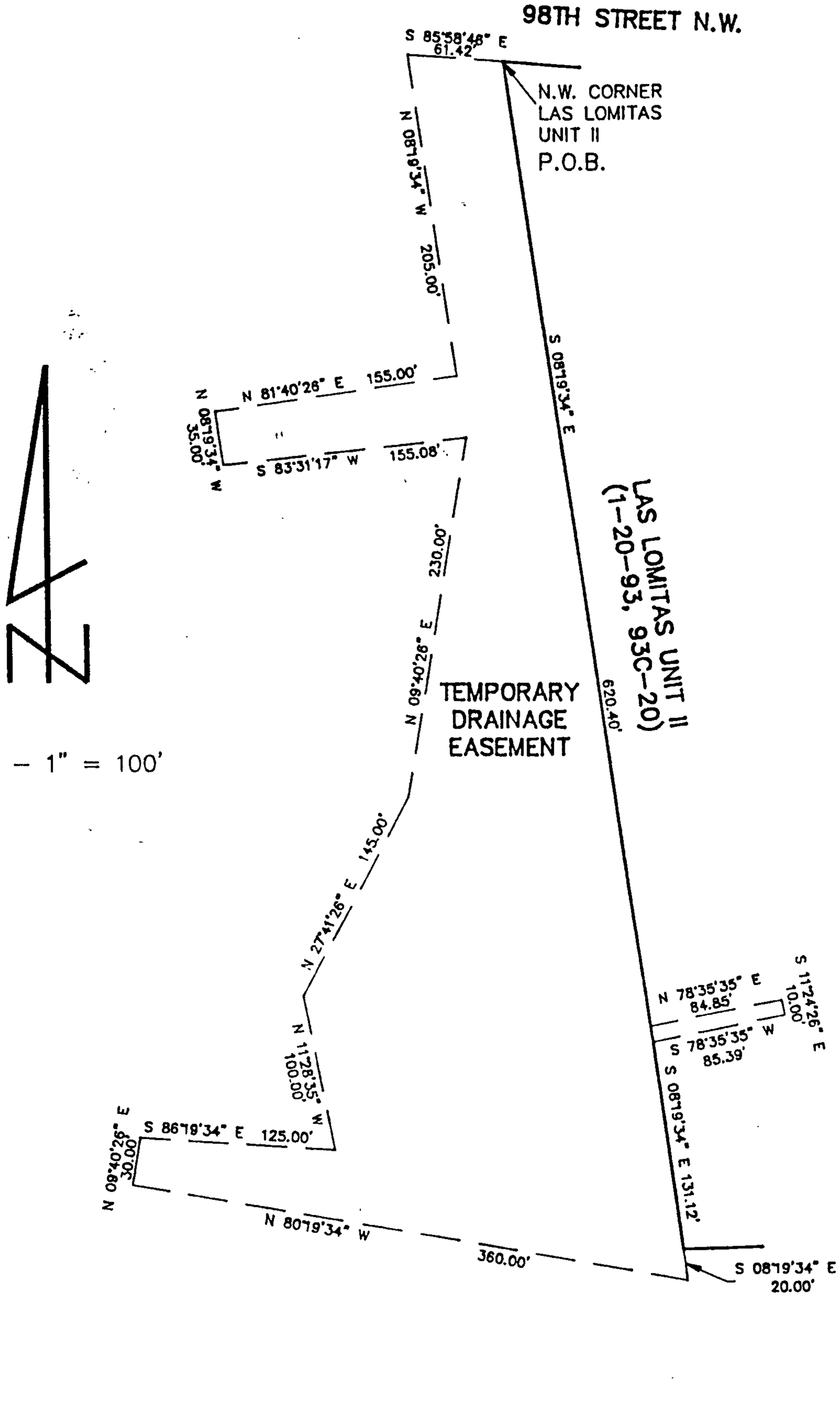


EXHIBIT B

0002243

Land situated within projected Section 9, Township 10 North, Range 2 East, New Mexico Principal Meridian, within the Town of Atrisco Grant, City of Albuquerque, Bernalillo County, New Mexico, being within unplatted Lands of Westland Development Company, Inc. and Las Lomitas Unit II 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 January 20, 1993 in Volume 93C, Folio 20.

EXHIBIT C

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

93 MAR 23 AM 10: 19

93-7 2236-2243

RECORDED
RECORDER
COUNTY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 13, 1993

Rick Beltramo, P.E.
AVID Engineering, Inc.
6100 Seagull Lane, NE, Suite 102
Albuquerque, New Mexico 87109

RE: DRAINAGE REPORT FOR LAS LOMITAS SUBDIVISION UNIT II, (H-9/D1E), ENGINEERS STAMP DATED FEBRUARY 15, 1993 AND LETTER DATED APRIL 8, 1993

Dear Mr. Beltramo:

Based on the information provided on the referenced submittals received March 17, 1993 and April 8, 1993, the plan is acceptable for Rough Grading and Final Plat.

Please be advised that prior to the City Engineer signing off on the plat, financial guarantees and maintenance covenants for the berms along the south side of the subdivision must be executed with DRC.

Also, prior to release of financial guarantees by DRC, an Engineer's Certification that the site was built in substantial compliance with the approved plan must be submitted and approved by this office.

Please do not hesitate to contact me if you should have any questions.

Cordially,

Gilbert Aldaz, P.E. & P.S.
Civil Engineer/Hydrology

GA/wp+516

xc: Lynda Michelle DeVanti, DRC
File

AVID ENGINEERING, INC.
Civil • Structural • Transportation
6100 Seagull Lane NE • Suite 102
Albuquerque, NM 87109 • (505) 881-5357

LETTER OF TRANSMITTAL

TO: GILBERT OLDOZ CITY HYDROLOGIST City/County Bldg.	DATE: 4/8/93 PROJECT: PROJECT NO.: 2108.50
ATTN:	
RE: LAS LOMITAS, UNIT IIA	

WE ARE SENDING:

QTY.	DESCRIPTION	FOR
1	Comment Response Ltr.	
	RECEIVED	
	APR - 8 1993	
	HYDROLOGY DIVISION	

REMARKS: Gilbert, I did not find a response letter in our files either. I therefore drafted a letter for your review.

BY: Leah Bolton

RECEIVED: Dolores Lopez DATE: 4/8/93

If enclosures are not as noted, kindly notify us at once.

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LADERA WEST ZONE ATLAS/DRAINAGE FILE # G-10

LEGAL DESCRIPTION: EL RANCHO ATRISCO DE LOS SANTOS

CITY ADDRESS: TODOS SANTOS STREET, NORTH OF OURAY

ENGINEERING FIRM: AVID ENGINEERING CONTACT. RICK BELTRAMO

ADDRESS: 6100 SEAGULL NE #102 PHONE: 881-5357

OWNER: CURB, INC CONTACT: CHUCK HAEGELIN

ADDRESS: 9806 GREENBRIAR NE PHONE: 821-8718

ARCHITECT: NONE CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: AVID ENGINEERING CONTACT: RUAN BACIGALUPA

ADDRESS: 6100 SEAGULL NE PHONE: 881-5357

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

X YES

___ NO

X COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. DRB-92-0210

EPC NO. Z-92-42

PROJECT NO. _____

TYPE OF SUBMITTAL:

X DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAIN PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

APR - 8 1993

DATE SUBMITTED: 4 | 8 | 93

BY: Rick Beltramo

CHECK TYPE OF APPROVAL SOUGHT:

___ SECTOR PLAN APPROVAL

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

X FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY).

REV. 10/85

AVID ENGINEERING, INC.

Civil • Structural • Transportation

April 8, 1993

Gilbert Aldaz, P.E.
City Hydrologist
City of Albuquerque
Public Works Department
Albuquerque, NM 87103

Re: LAS LOMITAS, UNIT IIA
DRAINAGE REPORT COMMENT RESPONSES

Dear Gilbert:

Following are responses to your comments dated September 2, 1992. These sheets have incorporated all DRC design review comments as well.

COMMENT RESPONSE

1 All streets carry flow within the Top-of-Curb. Some portions have been changed from roll-type curb to standard curb in order to increase flow capacities.

2 Spot elevations have been added in accordance to your criteria.

3 A maintenance covenant agreement and drainage easement for the offsite pond has been prepared, executed and filed with the Bernalillo County courthouse. Currently the document is being reviewed the city legal department. We understand that Work Order release cannot occur until this easement accepted and signed by the City Engineer.

4 The spillway has been redirected toward the Mirehaven arroyo.

5 The easement for the berm will be granted by plat and is now shown on the plat. The plat has not been filed but will be proceed for filing in the near future. The easement is also shown on the construction documents.

6 All necessary construction notes have been added per your direction.

7 Additional spot elevations have been added along Atrisquenos Street.

8 All plans now have a P.E. stamp.

9 Which block is in question? Side slopes appear to be acceptable.

RECEIVED
APR - 8 1993
HYDROLOGY DIVISION

10 Attached with this letter are the design calculations for the inlet standpipe and the detention pond routing hydrograph.

Submitted with this plan is a Drainage Information sheet and design calculations. Should you have any questions regarding this submittal, please call anytime.

Sincerely,

Rick Beltramo, P.E.
Project Manager

RB/cs
Enclosures
Job No. 2108.00

AVID ENGINEERING, INC.

STANDPIPE DESIGN

PROJECT NAME Los Lomitas

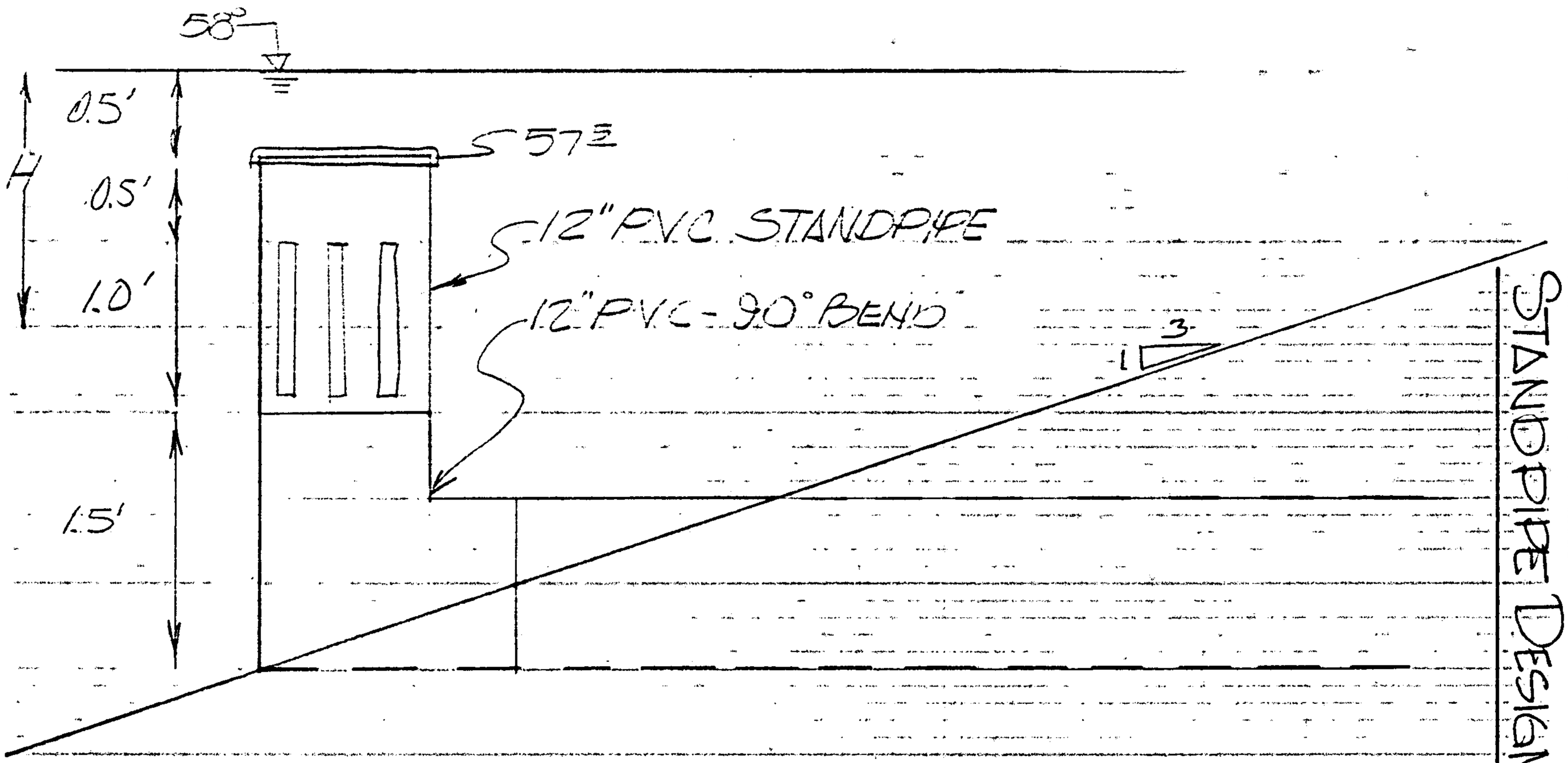
PROJECT NO. 2108.50

SUBJECT Drainage

BY [signature] DATE 3/11/93

CH'D. DATE

SHEET 1 OF 1



$Q_{ORIFICE} = 5.4 A H^{1/2} = 4 CFS$ (Q100 from ESPY HOUSTON REPORT)

$H = 1.50'$ (AVE. DEPTH)

$5.4 \times A \times \sqrt{1.50} = 4 CFS$

$A = 0.60 FT^2$

USE $15 - \frac{1}{2}" SLOTS \times 12" = 15 \times \frac{.5"}{12} \times L' = 0.625 > 0.6 [OK]$

AVID ENGINEERING, INC.
Civil • Structural • Transportation
6100 Seagull Lane NE • Suite 102
Albuquerque, NM 87109 • (505) 881-5357

LETTER OF TRANSMITTAL

TO: Gilbert Aldaz City Hydrologist 3rd Floor, City/County Bldg.	DATE: 4/1/93
	PROJECT: Las Lomitas, Ila
	PROJECT NO.: 2108.50
ATTN:	
RE: FINAL W.O. SIGNOFF	

WE ARE SENDING:

QTY.	DESCRIPTION	FOR
1	EXECUTED & FILED EASEMENT	YOUR INFORMATION

RECEIVED
APR - 2 1993
HYDROLOGY SECTION

REMARKS: Gilbert, How is the FEMA process going?

Our last discussion on Las Lomitas was that you needed a filed easement and covenants agreement before you could sign the plans. Attached is a copy.

Stuart Reeder has the originals and will be sending them to you.

BY: Edi Gulbran

RECEIVED: Suzanne Lotz DATE: 4/1/93

If enclosures are not as noted, kindly notify us at once.

I JUDY D. WOODWARD, County Clerk of Bernalillo County, New Mexico, hereby certify that the foregoing is a true, correct and full copy of the instrument herewith set out as appears of record in my office.

Dated this 23rd day of March, 19 93

JUDY D. WOODWARD
Bernalillo County Clerk
By _____
Deputy Clerk

0002236

093 028757

(NOT DEVELOPER OWNED PROPERTY)

PRIVATE FACILITY DRAINAGE COVENANT AND RESERVATION OF DRAINAGE EASEMENT

This Drainage Covenant, between [state the name of the present real property owner exactly as shown on the real estate document conveying title to the present owner and state the legal status of the owner; for example; "single person," "husband and wife;" "corporation of the State of _____;" "partnership":] Westland Development Co., Inc.; a Corporation of the State of New Mexico. ("Owner"), whose address is 401 Coors Blvd. NW; Albuquerque, NM 87121; [state the name of the developer or subdivider required to construct the drainage facility and state the legal status of the developer, for example, "single person;" "husband and wife," "corporation of the State of _____;" "partnership":] The Presley Companies, A California Corporation ("Developer"), whose address is _____, and the City of Albuquerque, a New Mexico municipal corporation ("City"), whose address is P. O. Box 1293, Albuquerque, New Mexico 87103, is made in Albuquerque, Bernalillo County, New Mexico and is entered into as of the date Owner and Developer sign this Covenant:

1. Recital. The Owner is the owner of the following described real property located at [give legal description, and street address:] See Exhibit C

in Bernalillo County, New Mexico (the "Property").

Pursuant to City ordinances, regulations and other applicable laws, the Developer is required to construct and maintain certain drainage facilities and the Owner, for good and valuable consideration received from the Developer, is willing to allow construction and maintenance of the Drainage Facility on its Property, and the parties wish to enter into this Covenant to establish the obligations and responsibilities of the parties.

2. Description and Construction of Drainage Facility. The Developer shall construct the following "Drainage Facility" within the Property at the Developer's sole expense in accordance with the standards, plans and specifications approved by the City:

Detention/Siltation Pond

The Drainage Facility is more particularly described in Exhibit A attached hereto and made a part hereof.

231F

(APPROVED BY LEGAL AS TO FORM ONLY 9-6-88)

3. Reservation of Easement. The Owner, for itself, its heirs, successors and assigns, jointly and severally, hereby grants to Developer, its heirs, successors and assigns, jointly and severally, a perpetual easement over and across a portion of the Owner's property for the benefit of [describe the lots, parcels or tracts which are to be benefited by the Drainage Facility and easement] Las Lomitas Subdivision

for the purpose of permitting the flow, conveyance, and discharge of storm water runoff and for the purpose of permitting ingress and egress for the construction, maintenance and repair of the drainage facility. The land affected by the grant of this easement is more particularly described as:

SEE EXHIBIT "A"

4. Maintenance of Drainage Facility. The Developer shall maintain the Drainage Facility and Easement at the Developer's sole cost in accordance with the approved Drainage Report and plans. In the event the Developer fails to maintain the Drainage Facility, Owner agrees that it shall be responsible for maintenance of the Drainage Facility and Easement in accordance with the approved Drainage Report and plans.

5. Benefit to Property. The Developer and Owner acknowledge and understand that the Drainage Facility required herein to be constructed is for the private benefit and protection of the Developer's property and that failure to maintain such facility could result in damage or loss to the Owner's Property and to the property of Developer.

6. Inspection of Drainage Facility. The City shall have no duty or obligation whatsoever to perform any inspection, maintenance or repair of the Drainage Facility, it being the duty of the Developer, its heirs, successors and assigns to construct and maintain the facility in accordance with approved plans and specifications.

(APPROVED BY LEGAL AS TO FORM ONLY 9-6-88)

7. Liability of City. The Developer and Owner understand and agree that the City shall not be liable to the Developer or the Owner, or their respective heirs, successors or assigns, or to any third parties for any damages resulting from the Developer's or Owner's failure to construct, maintain or repair the Drainage Facility.

8. Indemnification. The Developer owns and controls the Drainage Facility and shall not permit the Drainage Facility to constitute a hazard to the health or safety of the general public. The Developer agrees to indemnify, defend and hold harmless the City, its officials, agents and employees, and the Owner, its heirs, successors and assigns from any claims, actions, suits or other proceedings arising from or out of the negligent acts or omissions of the Developer, its agents, representatives, contractors or subcontractors or arising from the failure of the Developer, its agents, representatives, contractors or subcontractors to perform any act or duty required of the Developer herein; provided, however, to the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to this Agreement, this Agreement to indemnify will not extend to liability, claims, damages, losses or expenses, including attorney's fees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the respective indemnitee, or the agents or employees of the respective indemnitee; or (2) the giving of or the failure to give direction or instructions by the respective indemnitee, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

9. Assessment. Nothing in this Easement and Covenant shall be construed to relieve the Owner or Developer, or their respective heirs, assigns and successors from an assessment against the Owner's or Developer's property for improvements under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Drainage Facility will not reduce the amount assessed by the City.

10. Binding on Owner's Property. The easement, covenants and obligations of the Owner and Developer set forth herein shall be binding on the Owner and Developer, and their respective heirs, assigns and successors and on the Owner's Property and constitute covenants running with the Owner's Property until released by the City's Chief Administrative Officer as approved by the City Engineer.

11. Entire Covenant. This Covenant contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

(APPROVED BY LEGAL AS TO FORM ONLY 9-6-88)

0002239

12. Changes to Covenant. Changes to this Covenant are not binding unless made in writing, signed by all parties.

13. Effective Date of Covenant. This Covenant shall be effective as of the date of signature of the Owner and Developer.

DEVELOPER:

By: _____
Its: PRESIDENT
Dated: MARCH 18 93

OWNER: Westland Development Co., Inc.

By: Barbara Page
Its: President & C.E.O.
Dated: _____

STATE OF New Mexico)
) ss
COUNTY OF Bernalillo)

The foregoing instrument was acknowledged before me this 12th day of March, 19 93, by [name of person signing:] Barbara Page; [title or capacity, for instance, "President" or "Owner":] President & C.E.O. of the entity which owns the Property if other than the individual signing, for instance, the name of the corporation; partnership; or joint venture:] Westland Development Co., a New Mexico Corporation.

M. Helen Sanchez
Notary Public

My Commission Expires:
5-17-95

OFFICIAL SEAL
M. HELEN SANCHEZ
NOTARY PUBLIC - STATE OF NEW MEXICO
Notary Bond Filed With Secretary of State
My Commission Expires 5-17-95

231F

(APPROVED BY LEGAL AS TO FORM ONLY 9-6-88)

0002240

STATE OF ARIZONA)
) ss
COUNTY OF MARICOPA)

The foregoing instrument was acknowledged before me this 18th day of March, 1993, by [name of person signing:] _____; [title or capacity, for instance, "President" or "Owner":] PRESIDENT of [the Developer if other than an individual, for instance, the name of the corporation, partnership, or joint venture:] The Presley Companies Southwest

Maureen W. Maxwell
Notary Public

My Commission Expires:

_____

OFFICIAL SEAL
MAUREEN W. MAXWELL
NOTARY PUBLIC - STATE OF ARIZONA
MARICOPA COUNTY
My Commission Expires May 23, 1996

CITY OF ALBUQUERQUE:

Accepted:

By: _____
Director Public Works Department
Dated: _____

[EXHIBIT A ATTACHED]

(APPROVED BY LEGAL AS TO FORM ONLY 9-6-88)

A Temporary Drainage Easement situate within projected Section 9, Township 10 North, Range 2 East. New Mexico Principal Meridian, within the Town of Atrisco Grant, City of Albuquerque, Bernalillo County, New Mexico. being within unplatted Lands of Westland Development Company, Inc. and Las Lomitas Unit II 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 January 20. 1993 in Volume 93C, Folio 20. and being more particularly described by New Mexico State Plane Grid bearings and ground distances as follows:

BEGINNING at the northeast corner of the herein described Easement, said point being common with the northwest corner of LAS LOMITAS UNIT II;

THENCE along the west boundary of said Las Lomitas Unit II S08°19'34"E, 620.40 feet to a point;

THENCE leaving said west line N78°35'35"E; 84.85 feet to a point;

THENCE S11°24'26"E, 10.00 feet;

THENCE S78°35'35"W, 85.39 feet to a point, said point being on the west boundary line of said Las Lomitas Unit II;

THENCE along said west line S08°19'34"E; 131.12 feet to a point, said point being a southwest corner of said Las Lomitas Unit II;

THENCE S08°19'34"E; 20.00 feet to the southeast corner;

THENCE N80°19'34"W, 360.00 feet to the southwest corner;

THENCE N09°40'26"E, 30.00 feet to a point;

THENCE S86°19'34"E, 125.00 feet to a point;

THENCE N11°28'35"W, 100.00 feet to a point;

THENCE N27°41'26"E, 145.00 feet to a point;

THENCE N09°40'26"E; 230.00 feet to a point;

THENCE S83°31'17"W, 155.08 feet to a point;

THENCE N08°19'34"W, 35.00 feet to a point;

THENCE N81°40'26"E; 155.00 feet to a point;

THENCE N08°19'34"W; 205.00 feet to the northwest corner;

THENCE S85°58'46"E, 61.42 feet to the point of beginning and containing 2.4146 acres more or less.

EXHIBIT A

0002242

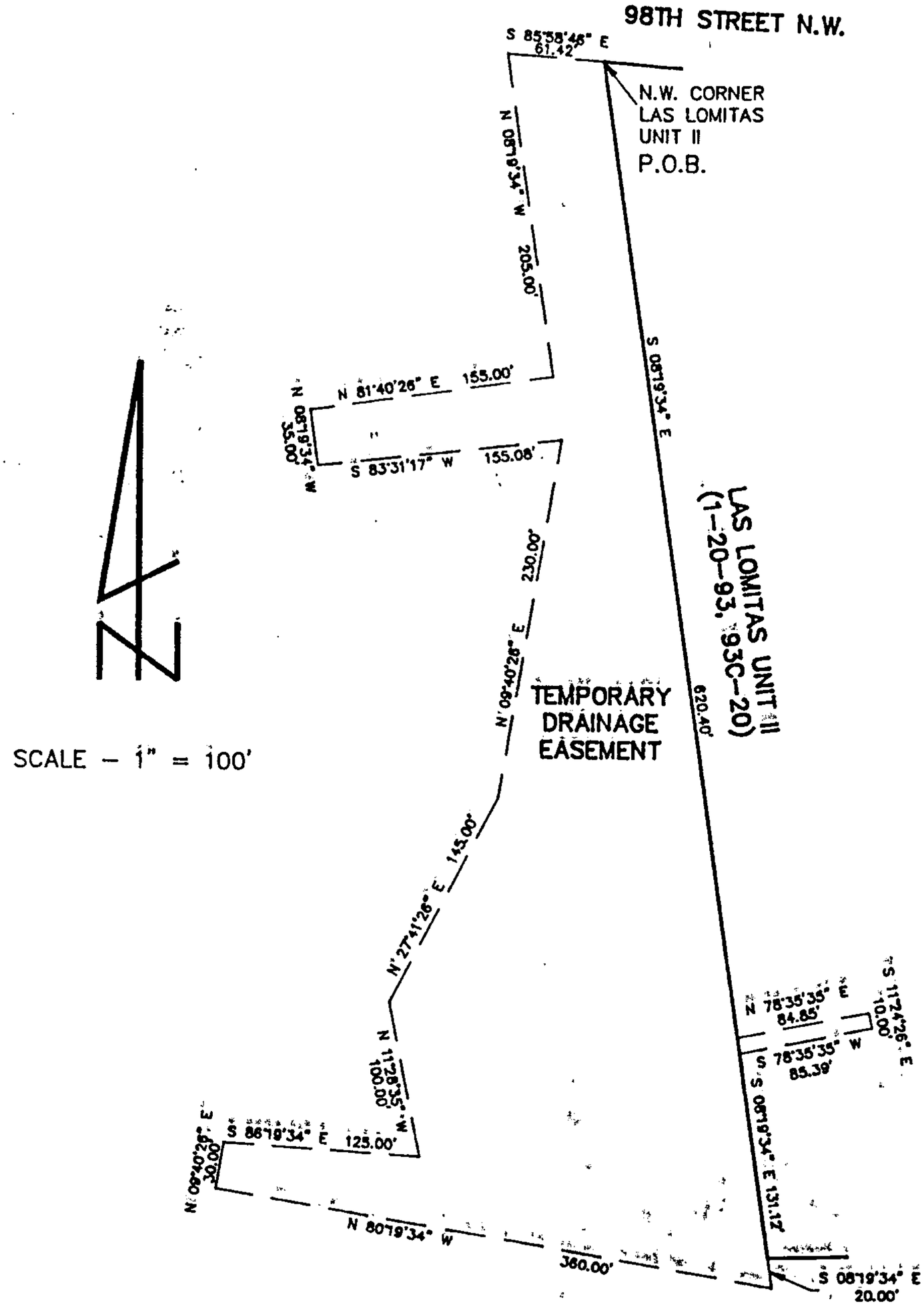


EXHIBIT B

0002243

Land situated within projected Section 9; Township 10 North; Range 2 East; New Mexico Principal Meridian; within the Town of Atrisco Grant, City of Albuquerque; Bernalillo County; New Mexico, being within unplatted Lands of Westland Development Company; Inc. and Las Lomitas Unit II 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 January 20; 1993 in Volume 93C; Folio 20.

EXHIBIT C

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

93 MAR 23 AM 10: 19

93-7 2236-2243

RECORDED
RECORDER
COUNTY

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Las Lomitas, Pa. IIA ZONE ATLAS/DRAINAGE FILE# H-9/B1E

LEGAL DESCRIPTION: Las Lomitas, Pa IIA

CITY ADDRESS: 98th Street and Calle Entrada

ENGINEERING FIRM: AVID ENGINEERING, INC. CONTACT: Rick Bultrams

ADDRESS: 6100 Seagull St NE, Suite 102, 87109 PHONE: 881-5357

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: AVID ENGINEERING, INC CONTACT: Ruan Bacigalupa

ADDRESS: Same as Above PHONE: 881-5357

CONTRACTOR: None CONTACT: _____

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

_____ YES

_____ NO

_____ COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED
MAR 17 1993
HYDROLOGY DIVISION

DRB NO. _____

EPC NO. _____

PROJECT NO. 4422.91

TYPE OF SUBMITTAL:

_____ DRAINAGE REPORT

_____ DRAINAGE PLAN

_____ CONCEPTUAL GRADING & DRAIN PLAN

_____ GRADING PLAN

_____ EROSION CONTROL PLAN

_____ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

_____ SECTOR PLAN APPROVAL

_____ SKETCH PLAT APPROVAL

_____ PRELIMINARY PLAT APPROVAL

_____ SITE DEVELOPMENT PLAN APPROVAL

X FINAL PLAT APPROVAL

_____ BUILDING PERMIT APPROVAL

_____ FOUNDATION PERMIT APPROVAL

_____ CERTIFICATE OF OCCUPANCY APPROVAL

X ROUGH GRADING PERMIT APPROVAL

_____ GRADING/PAVING PERMIT APPROVAL

_____ OTHER _____ (SPECIFY)

DATE SUBMITTED: 3/17/93

BY: Rick Bultrams

REV. 10/85

AVID ENGINEERING, INC.
Civil • Structural • Transportation
6100 Seagull Lane NE • Suite 102
Albuquerque, NM 87109 • (505) 881-5357

LETTER OF TRANSMITTAL

TO: Gilbert Aldaz	DATE: 3/17/93
	PROJECT:
	PROJECT NO.:
ATTN:	
RE:	

WE ARE SENDING:

QTY.	DESCRIPTION	FOR
1	Copy/Print Revised Rough Grade Plan	for your files As you requested.
1	Set Blueline DRC Markups	
1	DRAINAGE INFO SHT.	

REMARKS: Gilbert, you will be receiving the originals of the construction plans soon. They are being routed from Department to Department.

RECEIVED: Suzanne Lisz BY: _____

DATE: 3-17-93

If enclosures are not as noted, kindly notify us at once.

H9/DIE

LOS off Gilbert signed off on Rough Gradings for 3/3/93

pgm

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Las Lomitas ZONE ATLAS/DRAINAGE FILE # H-9 / D1E

LEGAL DESCRIPTION: Unit II - Las Lomitas Subdivision

CITY ADDRESS: S.W. Corner of Unser & 98th Street

ENGINEERING FIRM: AVID Engineering, Inc. CONTACT: RICK BELTRAMO

ADDRESS: 6100 Seagull Lane, NE, Suite 102 PHONE: 881-5357
Albuquerque, NM 87109

OWNER: Presley Corp. CONTACT: Charles Caldwell

ADDRESS: 1909 Carlisle NE, Alb., NM 87110 PHONE: (602) 820-8245

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Aldrich Surveying CONTACT: Tim Aldrich

ADDRESS: P.O. Box 30701, Alb., NM 87190 PHONE: 884-1990

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

X YES 3/3/93

___ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. 92-0207

EPC NO. _____

PROJECT NO. _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAIN PLAN

X GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

RECEIVED
FEB 25 1993
HYDROLOGY SECTION

CHECK TYPE OF APPROVAL SOUGHT:

___ SECTOR PLAN APPROVAL

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

X ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY).

DATE SUBMITTED FEB 23, 1993

BY: _____

REV. 10/85

Rough Grading sign off by Gilbert on 3/3/93

AVID ENGINEERING, INC.

Civil • Structural • Transportation

February 22, 1993

Mr. Gilbert Aldaz, P.E.,P.S.
City Hydrologist
Public Works Department
City Of Albuquerque
City/County Building, 3rd Floor

RE: ROUGH GRADING PLAN FOR PHASE II-A, LAS LOMITAS SUBDIVISION ZONE MAP H-9

Dear Gilbert:

Submitted for your review and approval is the rough grading plan for phase II-A of Las Lomitas. The plans are in final review and approval is expected in the very near future. However, due to the time it is taking to obtain drainage easements for the offsite pond the developer would like to obtain rough grading approval at this time. Final Work Order approval is not expected until after the easements are filed and in place.

If meeting with you can help expidite this project, or if you have any questions please call me anytime.

Sincerely,

Rick Beltramo, P.E.
Project Manager

Attachments

FILE:\PROJECTS\LOMITAS\GILBERT.LET
JN: 2108.00

6100 Seagull St. NE • Suite 102 • Albuquerque, New Mexico 87109 • (505) 881-5357

AVID ENGINEERING, INC.
6100 Seagull St. NE Suite 102
ALBUQUERQUE, NM 87109

(505) 881-5357

LETTER OF TRANSMITTAL

DATE 2/24/93 | JOB NO. 2108.00

ATTENTION

RE:

TO Gilbert Aldaz P.E. & P.S.
City Hydrology
COA, 3rd Floor.

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☒ Prints ☒ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1			set sheets 4, 5 & 19 blueline prints
1			set Originals 4, 5 & 19 ; originals

RECEIVED
FEB 25 1993
[illegible] DIVISION

THESE ARE TRANSMITTED as checked below:

☒ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19 _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS Gilbert, As we discussed, I am sending the required sheets for Rough Grade Approval. I am not including the pond. This will be included in the W.O. approval set.

COPY TO _____

SIGNED: [signature]

If enclosures are not as noted, kindly notify us at once.

BRASHER ENGINEERING INC.

RECEIVED
DEC 11 1992
HYDROLOGY DIVISION

December 7, 1992

Gilbert Aldaz
Hydrology
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico

RE: LAS LOMITAS RETAINING WALLS CERTIFICATION

Dear Mr. Aldaz:

On behalf of Presley Companies, Brasher Engineering, Inc. inspected the retaining walls constructed as part of Las Lomitas Subdivision, at 98th and Unser. . The retaining walls are privately owned and maintained, and have been constructed in accordance with the approved project grading plan. Please forward this to Mr. Goolsby in Project Review so that Las Lomitas construction can be closed out. If you have any questions, please contact me.

Sincerely,

Paul Brasher, P. E.

TO: LYNDA MICHELLE
FROM: GILBERT ALDAZ
THE ABOVE CERTIFICATION FOR RTG. WALLS IS ACCEPTABLE FOR FINANCIAL GUARANTEE RELEASE ON THE ABOVE PROJECT

11930 MENAUL NE, SUITE 113 ALBUQUERQUE, NEW MEXICO 87112 (505) 296-0422 (505) 296-0466 FAX

Fred

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

RECEIVED
NOV 25 199
HYDROLOGY

November 17, 1992

CERTIFICATE OF COMPLETION AND ACCEPTANCE

Charlie G. Caldwell
The Presley Company
1909 Carlisle Blvd., N.E.
Albuquerque, NM 87110

RE: PROJECT NO. LAS LOMITAS SUBDIVISION, PROJECT NO. 4422.90, (MAP NO. H-9)

Dear Mr. Caldwell:

This is to certify that the City of Albuquerque accepts Project No. 4422.90 as being completed according to approved plans and construction specifications. If all required rights-of-way and/or easements have been dedicated, the City of Albuquerque will accept for continuous maintenance all public infrastructure improvements constructed as part of Project No. 4422.90. If the required rights-of-way and/or easements have not been dedicated, the City of Albuquerque cannot accept the project for continuous maintenance and said maintenance will be the responsibility of the developer. When a final plat has been filed it will be the developer's responsibility to provide the Construction Management Division with a copy, at which time the City will fully accept Project No. 4422.90.

The project is described as follows:

- Installed new six inch (6") and eight inch (8") water lines and eight inch (8") and ten inch (10") sanitary sewer lines including service laterals for the subject subdivision. Also, constructed concrete sidewalks, curb and gutters, and asphalt paved roadways in the subject subdivision.

- A interim retention pond was also constructed at the south end of the roadway on Calle De Entrada. This drainage improvement also included 700' of 24" RCP pipeline connecting the retention pond and the energy dissipation structure at Ladera Diversion Channel.

- The contractor's correction period begins the date of this letter and will be effective for a period of one (1) year.

Sincerely,

Russell B. Givler

Russell. B. Givler, P.E.
City Engineer
Engineering Group
Public Works Department

RBG:tjp

xc: Brasher Engineering
C.C.M., Inc.
~~Fred Aguirre, Engineering Group, PWD~~
Phil Fischer, Engineering Group, PWD
Terri Martin, Engineering Group, PWD
Martin Barker, Engineering Group, PWD
Steve Gonzales, Special Assessments
Sam Hall, Operations Group, PWD
A. N. Gaume, Operations Group, PWD
Jim Fink, Operations Group, PWD
Ray Chavez, Engineering Group, PWD
Stuart Reeder, Water/Wastewater Group, PWD
Dave Parks, Engineering Group, PWD
Tom Kennerly, Engineering Group, PWD
Josie Gutierrez, New Meter Sales, Finance Group, PWD
Claudia Gallegos, Standby Clerk, Finance Group, PWD
Lynda Michelle Devanti, Engineering Group, PWD
Richard Zamora, Engineering Group, PWD
Kelly Johnson, Engineering Group, PWD
f/Project 4422.90
f/Warranty
f/Readers

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

September 2, 1992

James Domenick, P.E.
AVID Engineering, Inc.
6100 Seagull Lane, NE, Suite 102
Albuquerque, New Mexico 87109

RE: DRAINAGE REPORT FOR LAS LOMITAS SUBDIVISION UNIT II, RECEIVED JULY 16 AND JULY 21, 1992 FOR FINAL PLAT APPROVAL

Dear Mr. Domenick:

Based on the information provided on the referenced submittal, kindly address the following prior to Rough Grading or Final Plat approval:

1. Please be advised that flow depths above the top of curb are not acceptable because of the recent flooding problems the City has encounter with erosion taking place behind street curbs. I realize that Atrisquenos Street is already built, so maintain the status quo on this street. All other streets being built under Unit II must maintain flows below top of curb, check table IV for this condition.

2. Provide spot elevations at all front property corners to the nearest 1/100th of a foot.

3. A maintenance covenant agreement and drainage easement is required for the offsite pond.

4. The spillway for the detention pond should face the arroyo, not the subdivision.

5. The offsite diversion berms along the south side of the subdivision will also require a maintenance covenant agreement.

6. Provide the necessary construction notes on the Rough Grading plan for this approval, to include erosion control measures.

7. Provide existing curb elevations along Atrisquenos Street on the Rough Grading Plan.

8. Be advised that future drainage submittals require that each plan be stamped by a P.E. prior to this office beginning their review.

9. Check the side slopes at lots 11-14, they appear to exceed 3:1.

10. Submit the orifice calculations and the detention pond routing hydrograph for the offsite pond. Please include a standpipe orifice control to reduce the potential of clogging in the outlet.

Please do not hesitate to contact me if you should have any questions.

Cordially,

Gilbert Aldaz, P.E. & P.S.
Civil Engineer/Hydrology

GA/wp+516

cc: File

AVID ENGINEERING, INC.
Civil • Structural • Transportation
6100 Seagull Lane NE • Suite 102
Albuquerque, NM 87109 • (505) 881-5357

LETTER OF TRANSMITTAL

TO: City of Albuquerque	DATE: 7/21/92
400 Marquette	PROJECT: Las Comitas
Albuquerque, NM 87102	
	PROJECT NO.:
ATTN: MR. FRED AGUIRRE, HYDROLOGY	
RE:	

RECEIVED
JUL 21 1992
HYDROLOGY DIVISION

WE ARE SENDING:

QTY.	DESCRIPTION	FOR
1	Las Comitas	
	Drainage Report	
	update	

REMARKS:

BY: JAMES DOMENICI

RECEIVED: Joann Candelaria DATE: 7-21-92

If enclosures are not as noted, kindly notify us at once.

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Las Lomitas ZONE ATLAS/DRAINAGE FILE # H-9 | DIE

LEGAL DESCRIPTION: Unit II - Las Lomitas Subdivision

CITY ADDRESS: S.W. Corner of Unser & 98th Street

ENGINEERING FIRM: AVID Engineering, Inc. CONTACT: James Domenick

ADDRESS: 6100 Seagull Lane, NE, Suite 102 PHONE: 881-5357
Albuquerque, NM 87109

OWNER: Presley Corp. CONTACT: Charles Caldwell

ADDRESS: 1909 Carlisle NE, Alb., NM 87110 PHONE: (602) 820-8245

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Aldrich Surveying CONTACT: Tim Aldrich

ADDRESS: P.O. Box 30701, Alb., NM 87190 PHONE: 884-1990

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

X YES DRB NO. 92-0207

___ NO EPC NO. _____

___ COPY OF CONFERENCE RECAP SHEET PROVIDED PROJECT NO. _____

TYPE OF SUBMITTAL:

X DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAIN PLAN

X GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SECTOR PLAN APPROVAL

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

X FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

RECEIVED
JUL 16 1992
HYDROLOGY DIVISION

DATE SUBMITTED: July 14, 1992

BY: _____

REV. 10/85

AVID ENGINEERING, INC.

Civil • Structural • Transportation

RECEIVED
JUL 16 1992
HYDROLOGY DIVISION

July 9, 1992

Mr. Gilbert Aldaz, PELS
Public Works Department
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RE: LAS LOMITAS (UNIT II) SUBDIVISION.
TRANSMITTAL OF DRAINAGE REPORT UPDATE.

Dear Mr. Aldaz:

Enclosed is the drainage report update for the Las Lomitas Subdivision. The report amends the drainage plan for the revised phasing of construction, which we reviewed in our meeting on June 12, 1992. The report follows the format we discussed at that time.

Please review the update at your earliest convenience. We will be submitting the Unit II plat for review by DRB this week. Do not hesitate to call me if you have questions about the update or need any additional information.

Sincerely,

James V. Domenick, P.E.
Principal

Enclosure

cc: Fred Aguirre
Charlie Caldwell

6100 Seagull St. NE • Suite 102 • Albuquerque, New Mexico 87109 • (505) 881-5357

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

December 20, 1993

CERTIFICATE OF COMPLETION AND ACCEPTANCE

Charlie G. Caldwell
The Presley Company
1909 Carlisle Blvd., N.E.
Albuquerque, NM 87110

RE: PROJECT NO. 4422.82 LAS LOMITAS SUBDIVISION
(MAP H-9) *D/E*

Dear Mr. Caldwell,

This is to certify that the City of Albuquerque accepts Project No. 4422.82 as being completed according to approved plans and construction specifications. Please be advised this certificate of completion and acceptance shall only become effective upon final plat approval and filing in the office of the Bernalillo County Clerk's.
The project is described as follows:

- Installed new four inch (4"), six inch (6"), and eight inch (8") waterline systems and eight (8") and ten inch (10") sanitary sewer lines including service laterals for the subject subdivision. Also, constructed concrete sidewalks, curb and gutters, and asphalt paved readways in the subject subdivision.

- A interim detention pond was also constructed extending from N.W. to S.W. corners of the subject subdivision. This drainage improvement also included outlet pipe and spillway.

The contractor's correction period begins the date of this letter and will be effective for a period of one (1) year.

Sincerely,

Rick Roybal, PE
City Engineer,
Engineering Group
Public Works Department

Sincerely,

Russell B. Givler, PE
Chief Construction Engineer,
Engineering Group
Public Works Department

DEC 27 1

cc: Avid Engineering
C.C.M.
Fred Aguirre, Engineering Group, PWD
Lynda Michelle DeVanti, Engineering Group, PWD
Terri Martin, Engineering Group, PWD
Martin Barker, Engineering Group, PWD
Steve Gonzales, Special Assessments, DFM
A.N. Gaume, Operations Group, PWD
Sam Hall, Operations Group, PWD
Jim Fink, Operations Group, PWD
Ray Chavez, Engineering Group, PWD
Stuart Reeder, Water/Wastewater Group, PWD
Dave Parks, Engineering Group, PWD
Bill Coleman, Engineering Group, PWD
Josie Gutierrez, New Meter Sales, Finance Group, PWD
Richard Zamora, Engineering Group, PWD
f/Project No. 4422.82
f/Readers
f/Warranty:Contract

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LAS LOMITAS ZONE ATLAS/DRNG. FILE #: H9 - D1E

DRB #: _____ EPC #: _____ WORK ORDER #: 4420

LEGAL DESCRIPTION: LAS LOMITAS UNIT I

CITY ADDRESS: 98TH AT UNSER NW

ENGINEERING FIRM: BRASHEAR ENGR CONTACT: D. LORENZ

ADDRESS: 11930 MENAUL NE #113 PHONE: 296 0422

OWNER: PRESLEY COMPANY CONTACT: 265-5011

ADDRESS: 1909 CARLISLE NE PHONE: JAMES HICKS

ARCHITECT: NA CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: ALDRICH LAND SURVEYING CONTACT: TIM ALDRICH

ADDRESS: 4406 TOWNER NE PHONE: 848 1990

CONTRACTOR: CCM CONTACT: J. KRAYBILL

ADDRESS: 8019 EDITH NE PHONE: 898-7777

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAINAGE PLAN

_X_ GRADING PLAN

____ EROSION CONTROL PLAN

____ ENGINEER'S CERTIFICATION

____ OTHER _____

PRE-DESIGN MEETING:

_X_ YES

____ NO

____ COPY PROVIDED

RECEIVED
JUN 11 1992
HYDROLOGY DIVISION

ATTN: FRED AGUIRRE

DATE SUBMITTED: _____

BY: D. LORENZ

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL

____ 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 APPROVAL

____ GRADING PERMIT APPROVAL

____ PAVING PERMIT APPROVAL

____ S.A.D. DRAINAGE REPORT

____ DRAINAGE REQUIREMENTS

_X_ OTHER _____ (SPECIFY)

COPY OF FINAL GRADING PLAN FOR YOUR FILE

PNM JOB NO. 91376

RECEIVED
JUN 16 1992
HYDROLOGY DIVISION

PNM PUBLIC SERVICE COMPANY OF NEW MEXICO
Alvarado Square, Albuquerque, New Mexico 87158

0001813

09257572

EASEMENT ENCROACHMENT AGREEMENT

THIS INFORMATION TO BE PROVIDED BY TITLE COMPANY

This Easement Encroachment Agreement made this 16th day of June, 19 92

by and between (BUYER/BORROWER) City of Albuquerque

whose address is P. O. Box 1293, Albuquerque, NM, 87103

(hereinafter called "First Party), (his) (her) (their) (its) heirs, successors and assigns, and PUBLIC SERVICE COMPANY OF NEW MEXICO, A New Mexico corporation (hereinafter called ("PNM") ("Parties").

WITNESSETH:

WHEREAS, PNM is the Grantee of a certain easement filed on the 14th day of May, 19 76, in Book Misc. 477, Page 107, (Document No. 76-25944) of the records of the County of Bernalillo, State of New Mexico (the "Easement"); and

WHEREAS, First Party desires to encroach upon the Easement as more particularly specified hereinafter; and WHEREAS, PNM has agreed to said encroachment: NOW, THEREFORE, for and in consideration of the sum of One and No/100 ($1.00) DOLLAR, in hand paid, and other valuable consideration, the receipt of which is hereby acknowledged, PNM does hereby grant First Party the right to encroach upon the Easement only to the extent and for the purposes set forth below:

PNM USE ONLY FOR LEGAL DESCRIPTION

PNM Project No.: 91376

Encroachment of a storm sewer within a one-hundred (100) foot transmission line easement situate in Section 9, T10N, R2E, N.M.P.M., Bernalillo County. Said storm sewer crosses the easement approximately 100.0 feet northeast of pole structure number WS163. Said encroachment is more particularly shown and described on Exhibit "A" and "A-1", attached and made a part of this document.

All construction and maintenance equipment must maintain ten (10) feet clearance from all pole structures and fifteen (15) feet clearance from all electrical conductors.

The grade level of the ground will be the same after construction is completed as it was before construction was started so as to insure that the clearance between the ground and existing electrical conductors meets the requirements of the National Electrical Safety Code.

By granting the aforesaid right to encroach PNM does not waive or relinquish any rights that it may have under or by reason of the Easement, including, but not limited to the right to build, rebuild, construct, reconstruct, locate, relocate, change, modify, renew, operate and maintain its electric lines (including underground lines), poles, guywires and other electric equipment, fixtures and structures that are now located, or may in the future be located, through, on, within, or under the Easement. First Party, at its sole cost and expense, agrees to remove or relocate its encroachment upon the written request of PNM within 90 days of such written request. First Party appoints PNM its agent to accomplish said removal or relocation at First Party's expense if First Party fails to remove or relocate such encroachment within such time period.

0001814

To the full extent permitted by the principles of the law of sovereign immunity

In consideration of PNM granting First Party the right to encroach upon the Easement, First Party hereby agrees to indemnify and hold harmless PNM, its agents and employees, from any and all claims whatsoever for personal injuries or damages to property when such injuries or damages directly or indirectly arise out of the existence, construction, maintenance, repair, condition, use or presence of the encroachment upon the Easement, regardless of the cause of said injuries or damages; provided, however, that notwithstanding anything to the contrary in this paragraph, First Party shall not be required to indemnify PNM for liability, claims, damages, losses or expenses, arising out of (a) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by PNM, or the agents or employees of PNM; or (b) the giving of or the failure to give directions or instructions by PNM, or the agents or employees of PNM, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

In consideration of PNM permitting First Party to encroach upon the Easement, First Party agrees that PNM shall not be responsible for any damage caused to facilities, equipment, structures or other property of First Party if damaged by reason of PNM's use of the Easement.

First Party shall comply with all applicable laws, ordinances, rules and regulations enacted or promulgated by any federal, state or local governmental body having jurisdiction over First Party's encroachment.

The provisions hereof shall inure to the benefit of and bind the heirs, executors, administrators, personal representatives, successors and assigns of the Parties hereto; provided, however, that no such heir, executor, administrator, personal representative, successor or assign of First Party shall have the right to use, alter or modify the encroachment in a manner which will increase the burden of the encroachment on the Easement.

IN WITNESS WHEREOF, the Parties have executed this Agreement on the day and year first above written.

BUYER/BORROWER (First Party):

Arthur G. Blumenfeld

PUBLIC SERVICE COMPANY OF NEW MEXICO

BY: Rob Roberts

Evan 'Rob' Roberts, Manager
Right of Way Department

PNM USE ONLY

STATE OF NEW MEXICO

COUNTY OF Bernalillo } SS

The foregoing instrument was acknowledged before me this 16th day of June, 19 92,

by Evan 'Rob' Roberts, a Manager, Right of Way Dept.
of the Public Service Company of New Mexico, a New Mexico corporation, on behalf of said corporation.

Audrey D. Phillips
NOTARY PUBLIC

My Commission Expires: 8-9-93

PNM USE ONLY

PNM USE ONLY

STATE OF NEW MEXICO

COUNTY OF Bernalillo } SS

The foregoing instrument was acknowledged before me this 30th day of April, 19 92,

by Arthur G. Blumenfeld

Elsie Davis
NOTARY PUBLIC

My Commission Expires:

OFFICIAL SEAL
ELSIE DAVIS
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 4-2-94

FOR RECORDER'S USE ONLY

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

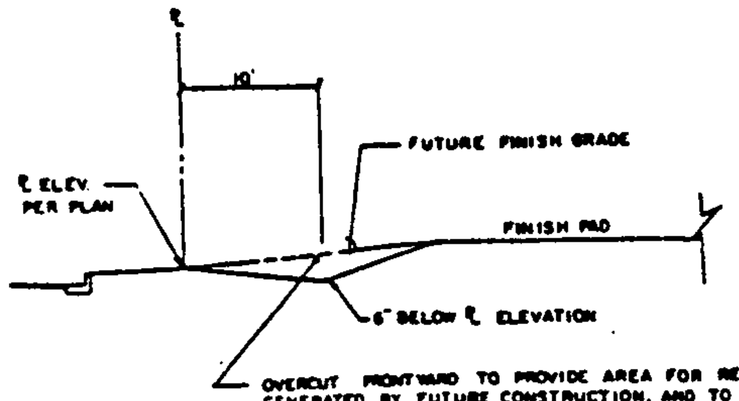
92 JUN 16 AM 10:52

BK BOR 92-14 PG 1813-1816
GLADYS M. DAVIS
CO CLERK & RECORDER
DEPUTY

PNM 467 1/90

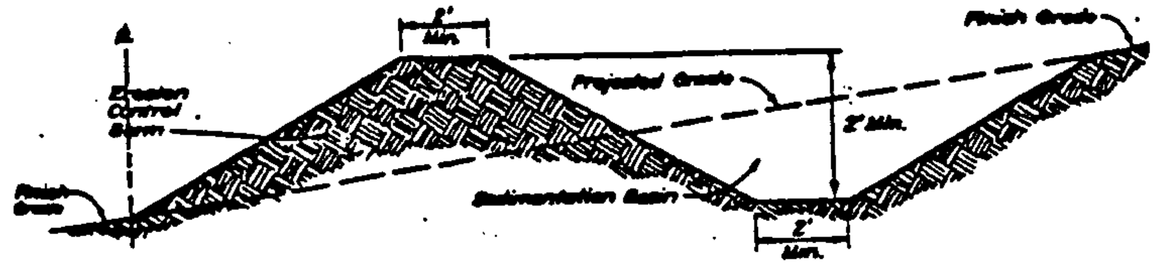
0001815

Exhibit "A"



OVERCUT FRONTWARD TO PROVIDE AREA FOR REPLACEMENT OF SPOILS GENERATED BY FUTURE CONSTRUCTION, AND TO PROVIDE INTERIM RETENTION POND DURING UNDEVELOPED CONDITIONS PER EROSION CONTROL PLAN. PLACE EROSION CONTROL BERM PER DETAIL (A) AT LOW LOT LINE TO PROHIBIT STORMWATER FROM DISCHARGING INTO DOWN-(E) STREAM LOT

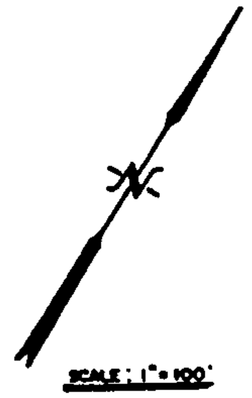
TYPICAL FRONTYARD GRADING DETAIL B



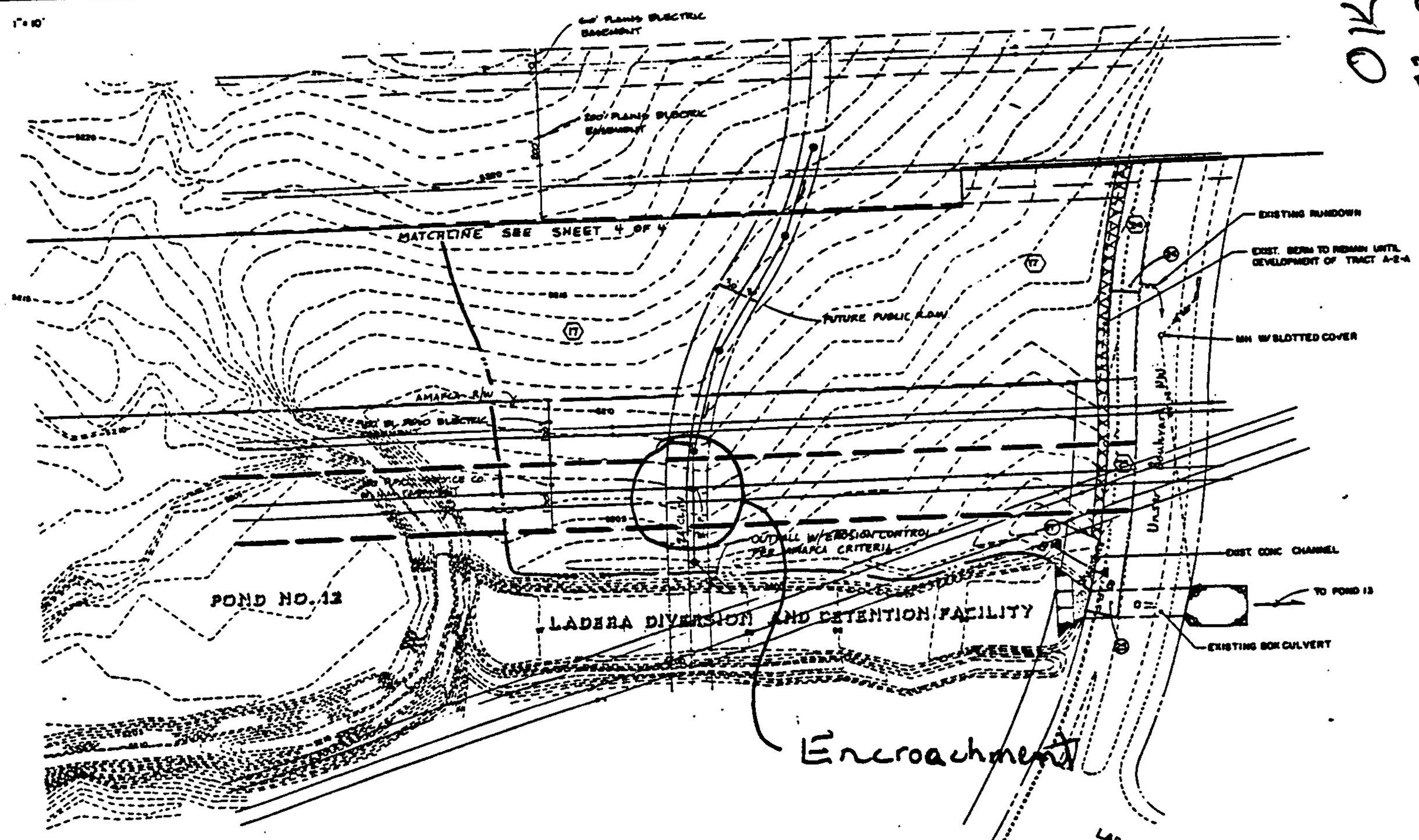
TEMPORARY EROSION CONTROL BERM

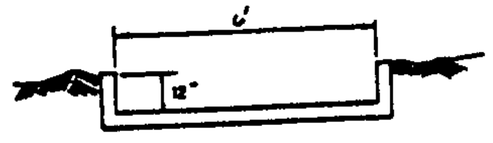
NO SCALE

DETAIL 'A'

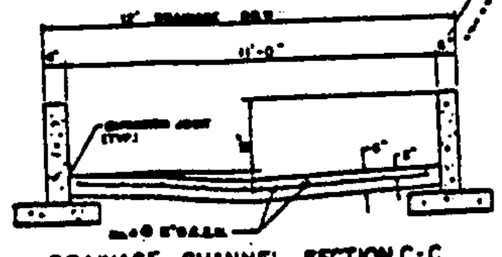


1" = 80'





EXISTING CHANNEL SECTION B-B



DRAINAGE CHANNEL SECTION C-C

OK
10-23-91

LEGEND

- DRAINAGE BASIN I.D.
- ANALYSIS POINT
- DIRECTION OF FLOW
- DRAINAGE BASIN BOUNDARY
- EXIST. CONTOUR
- EXIST. CURB & GUTTER
- EXIST. STORM DRAIN
- EXIST. DIVERSION BERM
- LIMIT OF 100yr. F.H.Z.
- PROPOSED RETAINING WALL
- PROPOSED PRIVATE SWALE
- SPOT ELEV. SURFACE FLOW

AS BUILT INFORMATION
CONTRACTOR — DATE
WORK STARTED — DATE
LIGHTING — DATE
ACCEPTANCE BY — DATE
FIELD INSPECTION BY — DATE
MATERIALS BY — DATE
SURVEYED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE

BENCH MARK'S
Located on the East Brass cable guard Brass marking NE-SW in the middle of grass I 70-S. approx. 750 ft. NW of station 84+50 approx. 0.2 mi. north of Ladera Dr., N10 and 0.1 ft. west of the centerline of Unser Blvd. N.W.
M.S.L.D. ELEV.: 5507.23

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

NO.	DATE	REMARKS
1	6/89	ADDED SECTION B-B
2	3/90	UPDATE

REVISIONS
DESIGN DL DATE 11-87
DRAWN BY MEC DATE 11/87
CHECKED BY DATE

9-14-90 DL
7-27-91 DL
8-22-91 DL
11-20-91
11-21-91
5-23-89
6-22-89

ENGINEER'S SEAL
NEW MEXICO REGISTERED PROFESSIONAL ENGINEER

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: LA MERCED DE ATRISCO
DRAINAGE PLAN
PHASE I

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRC Chair					
Trans. Dev					
Utility Dev					

DRAWING NO. — MAP NO. H-9 — SHEET 4 OF 4

•Exhibit "A-1"

0001816

Encroachment

OK
10-23-91

	R	Δ	T	CL
1	500.00'	9°01'01"	394.41'	101.15'
2	500.00'	9°01'01"	394.41'	101.15'

SURVEY MONUMENT NO. 1 & 2 FOUND

LADERA DIVERSION AND DETENTION FACILITY

STORM SEWER LINE 'B'

TRACT A-2-A
EL RANCHO ATRISCO
PHASE V

STA 12+18.85 MATCHLINE SEE SHT 4/42

SCALE:
HORIZ. 1" = 50'
VERT. 1" = 5'

NO.	DATE	REMARKS	BY
		REVISIONS	

DESIGNED BY DATE
DRAWN BY DATE
CHECKED BY DATE

ENGINEER'S SEAL

4-24-91

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

BENCH MARKS

AS BUILT INFORMATION

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: STORM SEWER LINE 'B'
PLAN AND PROFILE STA. 13+31.75 TO STA. 21+33.35

APPROVALS	ENGINEER	DATE
D.R.C. Chair		
Trans. Dev.		
Utility Dev.		

MAP NO. H-9 SHEET 34 OF 42

DRAWING NO.

Gilbert Aldaz, P.E. & L.S.
City of Albuquerque, Engineer

APPROVED FOR ROUGH GRADING

Record de Arizaga Subdivision, ... Quetzon, Bk. ... dated September 5, 1991, ... Western Technologies, Inc.

2. Erosion control berms shall be constructed in accordance with Cell "E" as shown on the plan. The size intended to control sediment and prohibit the release of sediment into adjacent streets and property during construction activity.

3. The Contractor shall maintain all temporary erosion control facilities throughout the construction phase of the project. The shall maintain after completion of construction work.

4. Temporary erosion control measures constructed on the individual lots shall remain in place until development of each respective lot is complete.

5. All trunk yards shall be in accordance with Detail in the Standard Specifications about 30 as a part of the temporary erosion control plan.

6. The Contractor shall obtain a topsoil disturbance permit from the Environmental Health Division prior to performing any earthwork at the site.

7. The Contractor shall obtain a separate permit from Code Administration for the construction of the retaining walls.

8. At the first phase of construction the Contractor shall construct the trailer ditch and interception pond to provide protection for off-site flows.

9. Per drainage through ... walls at corner lots ... on sheet 40.

10. The Contractor shall ... lish and re-vegetate all ... Phase II disturbed by the ... tion of Phase I.

PROJECT NAME LA MERCED DE ATRISCO JOB NO.

SUBJECT STREET DEPTH ANALYSIS

BY CK. BY APPROVED BY DATE 9-30-91 PAGE OF

STREET DEPTH ANALYSIS FOR RANCHO ESTERO AND ATRISQUENOS:

RECEIVED
OCT 10 1991

AP#	W	SLOPE	t_c	i_{100}	C	A	Q_{100}	d_{100} *	Q_{MAX} * @ d = 0.87'
5	32'	2.4%	10min	4.65"/hr	0.64	2.0AC	6.0CFS	0.28'	211.7 CFS
6	32'	2.2	10	4.65	0.64	9.1	27.1	0.46'	202.7 CFS
7	32'	3.7	11	4.43	0.64	17.9	50.8	0.49	261.8 CFS
8	40'	0.6	12	4.24	0.64	27.6	74.9	0.80	133.6 CFS
11	40'	0.6	13	4.07	0.64	32.8	85.4	0.85	133.6 CFS
12	40'	0.6	14	3.92	0.64	38.0	95.3	0.85	133.6 CFS
5	32	2.4	12	4.24	0.64	27.0	73.7	0.59	211.7
6	32	2.2	20	3.27	0.64	34.1	71.4	0.60	202.7
7	32	3.7	21	3.19	0.64	42.9	87.6	0.58	261.8
8	40	0.6	22	3.11	0.64	52.6	104.7	+0.87	133.6
11	40	0.6	23	3.04	0.64	57.8	112.5	+0.87	133.6
12	40	0.6	25	2.91	0.64	63.0	117.3	+0.87	133.6

* PER MANNING'S EQN w/ n = 0.017

RECEIVED
OCT 10 1991

SECT	TC
1	19.25
2	19.10
3	18.95
4	18.80
5	18.65
6	18.50
7	18.35
8	18.20
9	18.05
10	17.90

	TC	FL
	73	18.06
	—	18.03
	02	18.35

	TC	FL
1	19.10	18.43
2	—	17.89
3	18.43	17.76

	TC	FL
1	17.36	16.69
2	—	16.65
3	17.42	17.09

ATRISQUENOS STREET N.W.

RANCHO ESTERO ROAD N.W.

SECT	TC	
11	19.38 RT	19.27 LT
12	20.33 RT	20.19 LT
13	21.28 RT	21.10 LT
14	22.23 RT	22.02 LT
15	23.18 RT	22.94 LT

P.I. | C/G T.C. | STA. | STA. | P.C. | C/G T.C. | P.C. | C/G T.C.

STA. 12+17 KT.
BEGIN STANDARD CURB & GUTTER
T.C. 5224.72 MRT
T.C. 5225.06 STD

	TC	FL
1	23.97	23.30
2	—	23.27
3	23.92	23.59

P.C.C.R. STA. 12+89.68
(16.00' LT.)
T.C. 5224.23

CONSTRUCT MOUNTABLE CURB & GUTTER

	TC	FL
1	22.12	21.45
2	—	22.07
3	23.03	22.36

P.R.C. STA. 13+73.83
(16.00' LT.)
BEGIN STANDARD CURB & GUTTER
T.C. 5221.49

CONSTRUCT STANDARD CURB & GUTTER

P.R.C. STA. 14+34.22
(16.00' LT.) T.C. 5219.27

	TC	FL
1	18.73	18.06
2	—	18.03
3	19.02	18.35

ATRISQUENOS STREET N.W.

SEE SHEET 15 OF 42

FOR CONTINUATION SEE SHEET 14 OF 42

FOR CONTINUATION SEE SHEET 10 OF 42

FOR CONTINUATION SEE SHEET 10 OF 42

NOT IN CONTRACT

BLOCK 24

BLOCK 21

BLOCK 22

BLOCK 23

25 FT TYP

50' ROW

32'

9'

T.C. 23.97

T.C. 23.33

T.C. 18.77

T.C. 18.31

E 23.17

E 21.97

E 17.98

E 17.79

	TC	FL
1	19.10	18.43
2	—	17.89
3	18.43	17.76

STA. 14+71.61
ESTERO =
STA. 6+15.13
ATRISQUENOS

SCALE:
HORIZ. 1"=50'
VERT. 1"=10'

THIS RUN EXECUTED 10/ 3/91 13: 9:29

****
HEC2 RELEASE DATED SEP 88 UPDATED APR 1989

ERROR CORR - 01,02
MODIFICATION -
****

T1 La Merced de Atrisco
T2 Street depth analysis - Supercritical
T3 Rancho Estero at Atrisquenos

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		2		1	-1				19.01	

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	1		-1				-1			

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

	150	200								
NC	0.017	0.017	0.017	0.30	0.50					
QT	1	12.8								
X1	1	7	0	60	0	0	0			
GR	19.58	0	19.25	10	18.58	10.6	18.98	30	18.58	49.4
GR	19.25	50	19.58	60						
X1	2	7	0	60	25	25	25			
GR	19.43	0	19.1	10	18.43	10.6	18.83	30	18.43	49.4
GR	19.1	50	19.43	60						
X1	3	7	0	60	25	25	25			
GR	19.28	0	18.95	10	18.28	10.6	18.68	30	18.24	49.4

```
GR    18.95      50     19.28      60

X1        4       7         0      60        25        25        25
GR    19.13       0     18.8       10     18.13     10.6     18.53       30     18.13      49.4
GR     18.8      50     19.13      60

X1        5       7         0      60        25        25        25
GR    19.98       0     18.65      10     17.98     10.6     18.38       30     17.98      49.4
GR    18.65      50     19.98      60

QT        1    87.6
X1       11       7         0      50        25        25        25
GR    23.27       0     22.94       9     22.27      9.6     22.83       25     22.51      40.4
GR    23.18      41     23.51      50
```

X1	12	7	0	50	25	25	25			
GR	22.35	0	22.02	9	21.35	9.6	21.88	25	21.56	40.4
GR	22.23	41	22.56	50						
X1	13	7	0	50	25	25	25			
GR	21.43	0	21.1	9	20.43	9.6	20.93	25	20.61	40.4
GR	21.28	41	21.61	50						
X1	14	7	0	50	25	25	25			
GR	20.52	0	20.19	9	19.52	9.6	19.98	25	19.66	40.4
GR	20.33	41	20.66	50						
X1	15	7	0	50	25	25	25			
GR	19.6	0	19.27	9	18.6	9.6	19.03	25	18.71	40.4
GR	19.38	41	19.71	50						
QT	1	104.7								
X1	-5	7	0	60	25	25	25			
GR	19.98	0	18.65	10	17.98	10.6	18.38	30	17.98	49.4
GR	18.65	50	19.98	60						
X1	6	6	0	76.7	25	25	25			
GR	18.83	0	18.5	10	17.83	10.6	18.23	30	17.83	49.4
GR	18.83	76.7								
X1	7	7	0	60	25	25	25			
GR	18.68	0	18.35	10	17.68	10.6	18.18	30	17.68	49.4
GR	18.35	50	18.68	60						
X1	8	7	0	60	25	25	25			
GR	18.53	0	18.2	10	17.53	10.6	17.93	30	17.53	49.4
GR	18.2	50	18.53	60						
X1	9	7	0	60	25	25	25			
GR	18.38	0	18.05	10	17.38	10.6	17.78	30	17.38	49.4
GR	18.05	50	18.38	60						
X1	10	7	0	60	25	25	25			
GR	18.23	0	17.90	10	17.23	10.6	17.63	30	17.23	49.4
GR	17.9	50	18.23	60						

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 1

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .300 CEHV= .500
*SECNO 1.000

3265 DIVIDED FLOW

3720 CRITICAL DEPTH ASSUMED

1.00	.33	18.91	18.91	19.01	19.00	.09	.00	.00	19.58
13.	0.	13.	0.	0.	5.	0.	0.	0.	19.58
.00	.00	2.34	.00	.000	.017	.000	.000	18.58	10.30
.007959	0.	0.	0.	0	14	0	.00	32.85	49.70

*SECNO 2.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.13

2.00	.25	18.68	18.76	.00	18.94	.26	.00	.05	19.43
13.	0.	13.	0.	0.	3.	0.	0.	0.	19.43
.00	.00	4.13	.00	.000	.017	.000	.000	18.43	10.38
.036076	0.	0.	0.	5	5	0	.00	24.74	49.62

*SECNO 3.000

3265 DIVIDED FLOW

```
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     3.00      .36    18.60    18.60      .00    18.69      .09      .37      .45    19.28
      13.       0.       13.       0.       0.       5.       0.       0.       0.    19.28
      .00      .00     2.37      .00     .000     .017     .000     .000    18.24    10.31
  .007982      25.      25.      25.       20       14        0      .00    31.83    49.70
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 4.000

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

4.00	.33	18.46	18.46	.00	18.55	.09	.20	.01	19.13
13.	0.	13.	0.	0.	5.	0.	0.	0.	19.13
.01	.00	2.35	.00	.000	.017	.000	.000	18.13	10.30
.007998	25.	25.	25.	20	11	0	.00	32.82	49.70

*SECNO 5.000

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

5.00	.33	18.31	18.31	.00	18.40	.08	.20	.15	19.98
13.	0.	13.	0.	0.	5.	0.	0.	0.	19.98
.01	.00	2.34	.00	.000	.017	.000	.000	17.98	10.30
.007886	25.	25.	25.	20	5	0	.00	32.91	49.70

*SECNO 11.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

11.00	.98	23.25	23.25	.00	23.50	.26	.14	.33	23.27
88.	0.	88.	0.	0.	22.	0.	0.	0.	23.51
.01	.00	4.06	.00	.000	.017	.000	.000	22.27	.64
.005375	25.	25.	25.	20	23	0	.00	42.18	42.82

*SECNO 12.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.55

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
12.00	.67	22.02	22.31	.00	23.01	.99	.28	.22	22.35
88.	0.	88.	0.	0.	11.	0.	0.	0.	22.56
.01	.00	7.97	.00	.000	.017	.000	.000	21.35	9.00
.035020	25.	25.	25.	6	8	0	.00	31.80	40.81

*SECNO 13.000

13.00	.63	21.06	21.37	.00	22.09	1.03	.91	.01	21.43
88.	0.	88.	0.	0.	11.	0.	0.	0.	21.61
.01	.00	8.14	.00	.000	.017	.000	.000	20.43	9.03
.037461	25.	25.	25.	8	11	0	.00	31.78	40.81

*SECNO 14.000

14.00	.61	20.13	20.43	.00	21.15	1.03	.94	.00	20.52
88.	0.	88.	0.	0.	11.	0.	0.	0.	20.66
.01	.00	8.13	.00	.000	.017	.000	.000	19.52	9.06
.037353	25.	25.	25.	8	14	0	.00	31.76	40.82

*SECNO 15.000

15.00	.57	19.17	19.49	.00	20.21	1.04	.94	.00	19.60
88.	0.	88.	0.	0.	11.	0.	0.	0.	19.71
.01	.00	8.17	.00	.000	.017	.000	.000	18.60	9.08
.037845	25.	25.	25.	8	14	0	.00	31.74	40.82

*SECNO -5.000
START TRIB COMP

-5.000	5.000	18.313

3235 SLOPE TOO STEEP, EXCEEDS .40

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

-5.00	.33	18.31	19.49	.00	23.98	5.67	2.62	-1.67	19.98
105.	0.	105.	0.	0.	5.	0.	0.	0.	19.98
.01	.00	19.10	.00	.000	.017	.000	.000	17.98	10.30
.527639	25.	25.	25.	0	0	0	.00	32.91	49.70

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 6.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .27

6.00	.49	18.32	18.55	.00	19.14	.82	2.42	2.42	18.83
105.	0.	105.	0.	0.	14.	0.	0.	0.	18.83
.02	.00	7.28	.00	.000	.017	.000	.000	17.83	10.17
.039158	25.	25.	25.	7	17	0	.00	52.48	62.65

*SECNO 7.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

7.00	.87	18.55	18.55	.00	18.80	.25	.29	.41	18.68
105.	0.	105.	0.	0.	26.	0.	0.	0.	18.68
.02	.00	4.04	.00	.000	.017	.000	.000	17.68	3.94
.005514	25.	25.	25.	20	17	0	.00	52.12	56.06

*SECNO 8.000

8.00	.77	18.30	18.36	.00	18.63	.33	.16	.02	18.53
105.	0.	105.	0.	0.	23.	0.	0.	0.	18.53
.02	.00	4.58	.00	.000	.017	.000	.000	17.53	7.02
.007082	25.	25.	25.	3	8	0	.00	45.97	52.98

*SECNO 9.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

9.00	.82	18.20	18.20	.00	18.47	.26	.15	.03	18.38
105.	0.	105.	0.	0.	25.	0.	0.	0.	18.38
.02	.00	4.11	.00	.000	.017	.000	.000	17.38	5.36
.005416	25.	25.	25.	20	8	0	.00	49.29	54.64

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 10.000									
10.00	.83	18.06	18.05	.00	18.33	.27	.14	.00	18.23
105.	0.	105.	0.	0.	25.	0.	0.	0.	18.23
.02	.00	4.17	.00	.000	.017	.000	.000	17.23	5.58
.005614	25.	25.	25.	0	5	0	.00	48.84	54.42

THIS RUN EXECUTED 10/ 3/91 13: 9:33

****
HEC2 RELEASE DATED SEP 88 UPDATED APR 1989

ERROR CORR - 01,02
MODIFICATION -
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

o Estero at Atrisquenos

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	1.000	.00	.00	.00	18.58	12.80	18.91	18.91	19.00	79.59	2.34	5.46	1.43
*	2.000	.00	.00	.00	18.43	12.80	18.68	18.76	18.94	360.76	4.13	3.10	.67
*	3.000	25.00	.00	.00	18.24	12.80	18.60	18.60	18.69	79.82	2.37	5.39	1.43
*	4.000	25.00	.00	.00	18.13	12.80	18.46	18.46	18.55	79.98	2.35	5.45	1.43
*	5.000	25.00	.00	.00	17.98	12.80	18.31	18.31	18.40	78.86	2.34	5.48	1.44
*	11.000	25.00	.00	.00	22.27	87.60	23.25	23.25	23.50	53.75	4.06	21.58	11.95
*	12.000	25.00	.00	.00	21.35	87.60	22.02	22.31	23.01	350.20	7.97	10.99	4.68
	13.000	25.00	.00	.00	20.43	87.60	21.06	21.37	22.09	374.61	8.14	10.77	4.53
	14.000	25.00	.00	.00	19.52	87.60	20.13	20.43	21.15	373.53	8.13	10.77	4.53
	15.000	25.00	.00	.00	18.60	87.60	19.17	19.49	20.21	378.45	8.17	10.73	4.50

*	-5.000	25.00	.00	.00	17.98	104.70	18.31	19.49	23.98	5276.39	19.10	5.48	1.44
*	6.000	25.00	.00	.00	17.83	104.70	18.32	18.55	19.14	391.58	7.28	14.39	5.29
*	7.000	25.00	.00	.00	17.68	104.70	18.55	18.55	18.80	55.14	4.04	25.91	14.10
	8.000	25.00	.00	.00	17.53	104.70	18.30	18.36	18.63	70.82	4.58	22.87	12.44
*	9.000	25.00	.00	.00	17.38	104.70	18.20	18.20	18.47	54.16	4.11	25.48	14.23
	10.000	25.00	.00	.00	17.23	104.70	18.06	18.05	18.33	56.14	4.17	25.11	13.97

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 16, 1991

Paul Brasher, P.E.
Brasher Engineering, Inc.
11930 Menaul Boulevard, NE Suite #111
Albuquerque, New Mexico

RE: GRADING PLAN FOR PHASE I AT LA MERCED DE ATRISCO
RECEIVED SEPTEMBER 23 & OCTOBER 10, 1991 FOR GRADING/PAVING
PERMIT APPROVAL (H-9/D1E)

Dear Mr. Brasher:

The referenced grading plans dated September 23, 1991 have been reviewed and the site is approved for grading permit.

Should you have any questions regarding this project, please call me at 768-2650.

Cordially,

Fred J. Aguirre, P.E.
Hydrologist

FJA/bsj
(WP+516)

PUBLIC WORKS DEPARTMENT

Walter H. Nickerson, Jr., P.E.
Assistant Director Public Works

ENGINEERING GROUP

Telephone (505) 768-2500

AN EQUAL OPPORTUNITY EMPLOYER

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LA MERCED DE ATRISCO ZONE ATLAS/DRNG. FILE #: H-9-D1E

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

LEGAL DESCRIPTION: PORTION OF EL RANCHO ATRISCO PHASE V

CITY ADDRESS: 98TH AT UNSER ; 53.26 AC. @ S.W. CORNER

ENGINEERING FIRM: BRASHER ENGINEERING, INC CONTACT: PAUL BRASHER

ADDRESS: 11930 MENAUL NE STE 111 PHONE: 296-0422

OWNER: PRESLEY COMPANIES CONTACT: JAMES HICKS

ADDRESS: 1909 CARLISLE NE PHONE: 265-5611

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT
____ DRAINAGE PLAN
____ CONCEPTUAL GRADING & DRAINAGE PLAN
____ GRADING PLAN
X EROSION CONTROL PLAN
____ ENGINEER'S CERTIFICATION
____ OTHER

PRE-DESIGN MEETING:

X YES
____ NO
____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL
____ 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 APPROVAL
X GRADING PERMIT APPROVAL
____ PAVING PERMIT APPROVAL
____ S.A.D. DRAINAGE REPORT
____ DRAINAGE REQUIREMENTS
____ OTHER _____ (SPECIFY)

W E

OCT 10 1991

ION

DATE SUBMITTED: 9 OCT 91

BY: [signature]

Public Service Company of New Mexico

OCT 10 1991
HYDROLOGY DIVISION

October 07, 1991

Mr. Paul Brasher
11930 Menaul, NE
Suite 111
Albuquerque, NM 87112

Dear Mr. Brasher:

Subject: Encroachment of Storm Sewer Near
Unser Blvd and 98th Street, NW
(PNM Project No. 91376)

Public Service Company of New Mexico (PNM) agrees to the encroachment of a storm sewer within the one-hundred foot wide utility easement located approximately one-quarter of a mile south of 98th Street, NW and approximately 200 feet west of Unser Blvd., NW. This preliminary agreement is subject to the City of Albuquerque entering into an Easement Encroachment Agreement with PNM.

If you have any questions, please call me at 848-2689.

Sincerely

Doug Hendren

Doug Hendren

Alvarado Square
Albuquerque, New Mexico 87158
505/848-2700

Westland Development Co., Inc.

401 Coors Blvd. N.W.
Albuquerque, New Mexico 87121
(505) 831-9600
FAX (505) 831-4865
1-800-726-3250

OCT 10 1991

October 4, 1991

Mr. Charles Reynolds
Senior Vice-President
Presley Companies
1901 Carlisle Boulevard, N.E.
Albuquerque, NM 87110

RE: La Merced Grading

Dear Mr. Reynolds:

This letter will serve to grant Presley and it's contractors the right to grade the area south of La Merced de Atrisco with the following conditions:

1) Said grading shall not exceed fifteen feet (15') beyond the south boundary of La Merced de Atrisco Subdivision.

2) Said grading shall not exceed a five to one (5:1) slope.

3) Presley shall hold Westland harmless from any liability arising from said grading.

Presley's and Westland's signature by their respective authorized officers below shall signify acceptence of the above mentioned conditions.

Sincerely,

Leroy J. Chavez
Project Engineer

ACCEPTED:

WESTLAND DEVELOPMENT CO., INC.

Barbara Page 10/4/91
Barbara Page Date
President &
Chief Executive Officer

ACCEPTED:

PRESLEY COMPANIES

Charles Reynolds Date
Vice-President

El Paso Electric Company
P.O. Box 982
El Paso, Texas 79960
(915) 543-5711

RECEIVED
OCT 10 1991

October 3, 1991

Mr. Paul Brasher, P.E.
Brasher Engineering, Inc.
11930 Menaul NE, Suite 111
Albuquerque, New Mexico 87112

Dear Mr. Brasher:

El Paso Electric Company has no objection to the placement of an underground storm sewer line across our easement as shown on the conceptual drainage plan for La Merced de Atrisco Subdivision in Albuquerque, New Mexico located at 98th and Unser Blvd.

Sincerely,

James L. Stremming
Right-Of-Way Engineer

RECEIVED
OCT 10 1991

Charles Reynolds
Presley Companies
1909 Carlisle Boulevard, N.E.
Albuquerque, New Mexico 87110

October 1, 1991

Leroy Chavez
Westland Development Company, Inc.
401 Coors Boulevard, N.W.
Albuquerque, New Mexico 87121

RE: LA MERCED DE ATRISCO - SUBDIVISION DRAINAGE

Dear Mr. Chavez:

This letter set forth the understanding between Westland and Presley, regarding the drainage of La Merced de Atrisco and adjacent offsite Westland lands, and the easements which Westland will dedicate for drainage improvements.

Presley Companies hereby certify that:

1. Within La Merced de Atrisco, the streets will be used to convey storm water through the subdivision to a desiltation/detention pond to be constructed on Tract A-2-A at the south end of Atrisquenos Street. This south pond will be temporary, and will drain by a 24" line to the Ladera Channel. The 24" line will be permanent and will be aligned to place it within the right-of-way of a future extension of Atrisquenos Street. The alignment for the road extension has been selected by Presley with the concurrence of Westland. To direct and desilt offsite flows generated on Westland lands west of La Merced de Atrisco, a desiltation pond will be constructed on Westland lands west of the subdivision. This west pond will be a temporary facility. The two ponds and 24" line described above will be constructed at the expense of Presley, and will be owned and maintained by the City of Albuquerque. Presley will hold Westland harmless from any liabilities arising out of the construction of the ponds and 24" outfall lines.

2. At such time as the extension of Atrisquenos is constructed, the extended roadway, together with the 24" line described above will be used to convey storm water to the Ladera Channel.

3. The drainage report for La Merced de Atrisco is based on City of Albuquerque criteria under the 1986 Emergency Rule. According to this criteria, the following table sets forth the

fully developed 100-year flows generated by the subdivision, the corresponding street capacity, the balance of unused street hydraulic capacity, and the dwelling units on offsite Westland lands which theoretically could be developed, according to the assumptions in Paragraph 4 below, to take advantage of the capacity balance:

STREET	LA MERCED Q (cfs)	STREET HYD. CAP. (cfs)	CAPACITY BAL. (cfs)	OFFSITE D.U.
Rancho Estero	50.8	202.7	151.9	229
Atrisquenos	95.3	133.6	38.3	58

The capacity calculated for Atrisquenos assumes a permissible flow line depth of 0.87' as allowed by the Drainage Ordinance for the City of Albuquerque. Development in excess of that shown could be achieved through the use of onsite detention ponding.

4. The offsite Westland drainage area will generate runoff based on these assumptions:

Boundary: North of Mirehaven "A" arroyo West of La Merced de Atrisco west boundary. South and east of curvilinear 98th Street.

Area: Approximately 25 acres.

Density: 4 du/ac.

Type: Single Family detached.

Time of Concentration To = 11 min.

Rational c = 0.60

Intensity i = 4.43 in./hr.

Q = 66.45 cfs

5. Presley will construct, at Presley's expense, standard curb and gutter in lieu of the mountable type in Rancho Estero along its entire length in order to increase the hydraulic capacity of the street, although the critical capacity problem is within Atrisquenos.

6. With reasonable care taken in design, the future extension of Atrisquenos St. to the Ladera Channel, together with the 24" line, and future appurtenances can provide the capacity required within the street based on the assumptions outlined in paragraph 3. above. However, Atrisquenos north of the La Merced de Atrisco south boundary is the limiting storm water conveyance reach.

7. The ponds described will require easements which may by eliminated at such time as development occurs which render them

unnecessary. The 24" line will require a permanent easement. Each of these facilities will require temporary construction easements.

Westland hereby commits to grant the following:

1. Permanent 26-foot drainage easement for the 24" storm drain outfall line to be maintained by the City.

2. Temporary drainage easements for:

   a. The desiltation pond west of La Merced de Atrisco on Westland lands.

   b. The detention and desiltation pond at the south boundary of La Merced de Atrisco at Atriquenos.

3. Temporary construction easements for each pond and the 24" outfall line.

4. Access to Presley's contractors to modify Mirehaven "A" Arroyo per the study by Easterling and Associates. Presley shall hold Westland harmless from any liability arising from said work. The exact grading plan for these improvements will be reviewed and approved in writing by Westland prior to any construction. This approval will not be unreasonably withheld.

Westland and Presley agree that Presley may elect to not construct La Merced de Atrisco in which case neither Westland nor Presley will be obligated to the other for performance of any condition herein.

Westland's and Presley's signatures below by their authorized officers shall signify agreement with the fore-mentioned conditions.

By: _____
Barbara Page,
President
Westland Development Company

By: _____
Charles Reynolds,
Senior Vice-President
Presley Companies

RECEIVED
SEP 23
HYDROLOGY

POND ROUTING

The routing method utilized in the following analysis was developed from the Storage Indication method as outlined in Introduction to Hydrology, 2nd Edition, Harper and Row, 1977, pages 240-244.

22.2

HYDROGRAPH COMPUTATION WORKSHEET

DATE 9-19-91
COMPUTED BY DL
CHECK BY _____

PROJECT LA MERCED DE ATRISCO

LOCATION DOWNSTREAM POND

ANALYSIS POINT # 8

(DR. AREA) A = 53.0 ACRES

T_C 25 MIN

POINT RAINFALL 2.20 IN. FROM PLATE 22.2 D-1

CN = 82 FROM PLATES 22.2 C-2, 22.2 C-3

RUNOFF VOLUME R = 0.75 IN. FROM PLATE 22.2 C-4

COMPUTED T_p = 25 MIN. (Rounded to even minute) $T_p = T_C$

$q_p = \frac{45.4A}{T_p}$ = NA CFS./INCH OF RUNOFF

$(R \times q_p) = Q_{peak}$ = 98.7 CFS

$t(COLUMN)=(t/T_p)$ $t=T_p(t/T_p)$

$y = \frac{Q}{Q_{peak}}$ $Q = y(Q_{peak})$

$V_{100/6}$ = 144,293 CF

PER 1986 EMERGENCY RULE

	(t/T_p)	t (min.)	y	Q (cfs)
1	0	0	0	0
2	.1	2.5	.03	3.0
3	.2	5.0	.10	9.9
4	.3	7.5	.190	18.8
5	.4	10.0	.310	30.6
6	.5	12.5	.470	46.4
7	.6	15.0	.660	65.1
8	.7	17.5	.820	80.9
9	.8	20.0	.930	91.8
10	.9	22.5	.990	97.7
11	1.0	25.0	1.00	98.7
12	1.1	27.5	.990	97.7
13	1.2	30.0	.930	91.8
14	1.3	32.5	.860	84.9
15	1.4	35.0	.780	77.0
16	1.5	37.5	.680	67.1
17	1.6	40.0	.560	55.3
18	1.7	42.5	.460	45.4
19	1.8	45.0	.390	38.5
20	1.9	47.5	.330	32.6
21	2.0	50.0	.280	27.6
22	2.2	55.0	.207	20.7
23	2.4	60.0	.147	14.8
24	2.6	65.0	.107	10.9
25	2.8	70.0	.077	7.8
26	3.0	75.0	.055	5.9
27	3.2	80.0	.040	3.9
28	3.4	85.0	.029	3.0
29	3.6	90.0	.021	2.0
30	3.8	95.0	.015	1.5
31	4.0	100.0	.011	1.1
32	4.5	112.5	.005	0.5
33	5.0	125.0	.000	0

PLATE 22.2 F-1

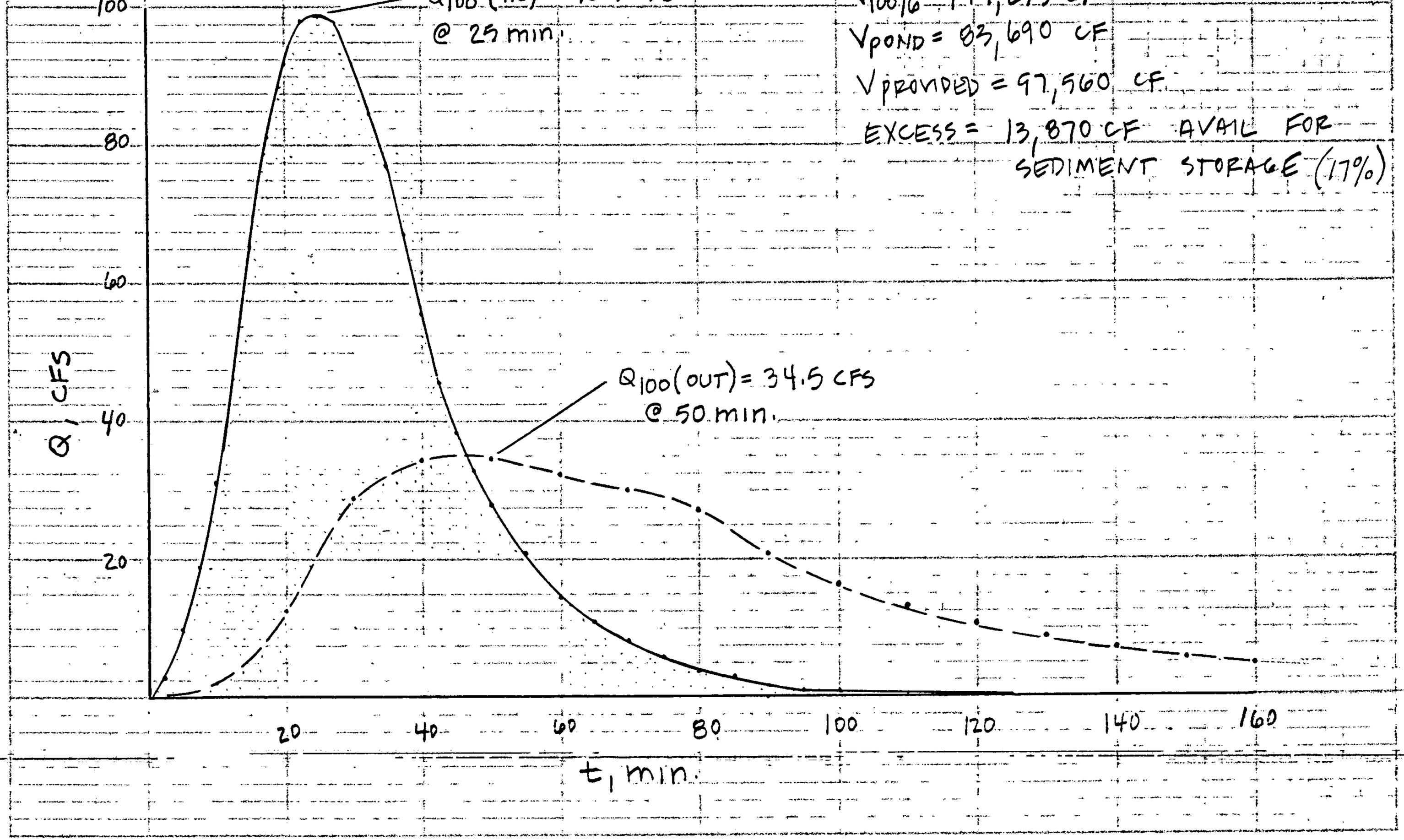
EFFICIENCY₆ 22-105
CROSS SECTION 6 X 6 TO INCH

INFLOW - OUTFLOW HYDROGRAPHS

Q_{100} (IN) = 98.7 CFS
@ 25 min.

Q_{100}(OUT) = 34.5 CFS
@ 50 min.

$V_{100/6}$ = 144,293 CF
V_{POND} = 83,690 CF
$V_{PROVIDED}$ = 97,560 CF
EXCESS = 13,870 CF AVAIL FOR SEDIMENT STORAGE (17%)



PROJECT NAME LA MERCED DE ATRISCO JOB NO.

SUBJECT POND DEPTH - VOLUME DATA

BY DL CK. BY APPROVED BY DATE 9-19-91 PAGE 4 OF

ELEVATION	AREA (SF)	VOLUME (CF)
5210.5	20,736	
		21,618
11.5	22,500	
		45,036
12.5	24,336	
		70,326
13.5	24,244	
		97,560
14.5	28,224	

POND BOTTOM 144' x 144'

ALL SIDES AT 3:1

OVERFLOW SPILLWAY @ 5214.50

V_{100} = 83,690 CF @ ELEV 14.0

PROJECT NAME LA MERCED DE ATRISCO JOB NO.

SUBJECT ELEV, DISCHARGE, VOLUME

BY DL CK. BY APPROVED BY DATE 9-19-91 PAGE 5 OF

POND WSE	h (FT)	A (SF)	QOUT (CFS)	VOLUME
10.5	0	0	0	0
11.5	0.5	2.16	6.1	21,618
12.5	1.5	2.88	14.1	45,036
13.5	*(1.0)	3.14	+ 26.7	70,326
14.5	*(2.0)	3.14	+ 31.9	97,560

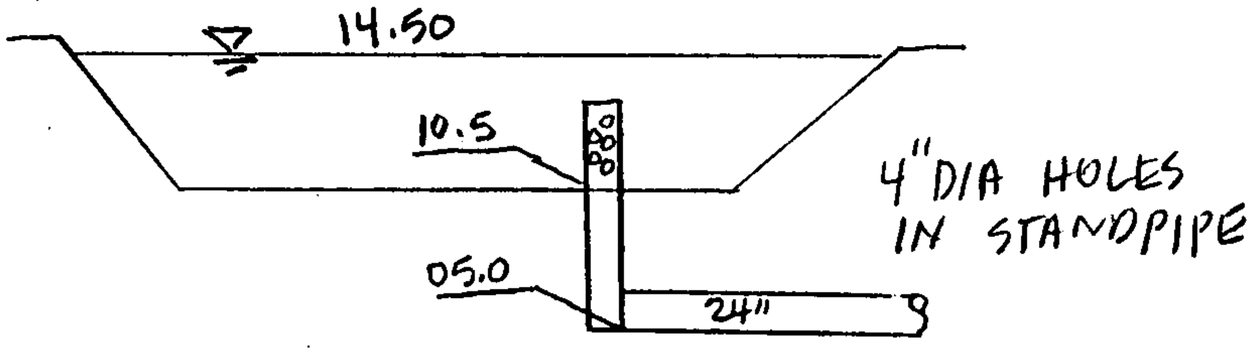
* h OVER STANDPIPE COVER

+ INCLUDES Q THRU HOLES (14.1 CFS)

$Q_{OUT} = CA\sqrt{2gh}$ WHERE: C = 0.5

$g = 32.2\ f/s^2$

A = AREA OF SUBMERGED PERFORATIONS IN STANDPIPE, SF



A (4" HOLE) = 0.09 SF

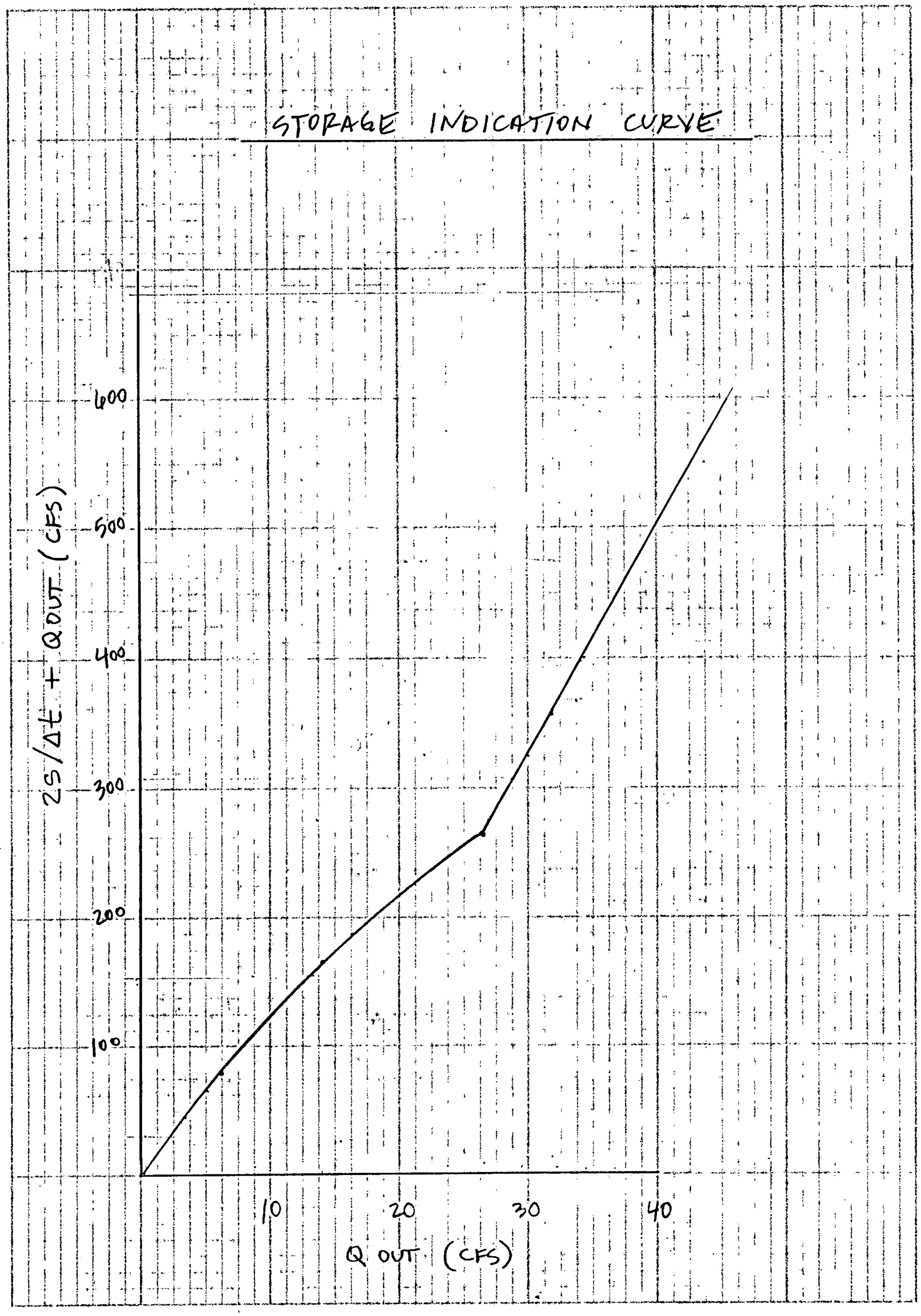
PROJECT NAME LA MERCED DE ATRISCO JOB NO.

SUBJECT STORAGE INDICATION DATA

BY DL CK. BY APPROVED BY DATE 9-19-91 PAGE 6 OF

STORAGE (CF)	QOUT (CFS)	2S/Δt + QOUT
21,618	6.1	78.2
45,036	14.1	164.2
70,324	26.7	261.1
97,560	31.9	357.1

STORAGE INDICATION CURVE



EFFICIENCY® 22-108
CROSS SECTION E X 8 TO INCH

PROJECT NAME LA MERCED DE ATRISCO JOB NO.

SUBJECT POND ROUTING DATA

BY DL CK. BY APPROVED BY DATE 9-19-91 PAGE 8 OF

t min	n	In CFS	In + In+1 CFS	2Sn/Δt - On CFS	2Sn-1/Δt + On+1 CFS	On+1 CFS
0	1	0	30.6	0	0	0
10	2	30.6	122.4	26.4	30.6	2.1
20	3	91.8	183.6	123.8	148.8	12.5
30	4	91.8	147.1	249.8	307.4	28.8
40	5	55.3	82.9	318.9	396.9	34.0
50	6	27.6	42.4	322.8	401.8	34.5
60	7	14.8	22.6	300.6	365.6	32.5
70	8	7.8	11.7	263.2	323.2	30.0
80	9	3.9	5.9	220.9	274.9	27.0
90	10	2.0	3.1	184.8	226.8	21.0
100	11	1.1	1.7	154.9	187.9	16.5
110	12	0.6	0.8	130.6	156.6	13.0
120	13	0.2	0.2	109.4	131.4	11.0
130	14	0	0	91.6	109.6	9.0
140	15	0	0	76.6	91.6	7.5
150	16	0	0	64.6	76.6	6.0
160	17	0	0	54.6	64.6	5.0
170	18	0	0	46.6	54.6	4.0
180	19	0	0	40.6	46.6	3.0
190	20	0	0	35.6	40.6	2.5

BRASHER ENGINEERING INC.

OCT 1 0 1991

September 23, 1991

Mr. Gilbert Aldaz PE & LS
Civil Engineer/Hydrology
Public Works Department
PO Box 1293
Albuquerque, NM 87103

Subject: Rough Grading Approval
La Merced De Atrisco (H9/D1E)

Dear Gilbert:

Submitted herewith for rough grading approval are plan sheets 4, 34, 38, 39, and 40, and pond routing calculations for the interim detention pond and outlet works. This submittal satisfies items 3, 6, 8, and 11 of your September 16, 1991 comment letter. Concerning item 5, the 1986 Emergency Rule was used to develop hydrology for the project. If you have any specific problems concerning the calculations please let me know. The documents mentioned in items 1 and 2 will be forwarded to you as soon as the are available. The remaining items (4, 7, 9, & 10) will be addressed with the DRC submittal.

Please review the submittal as soon as possible. The owner wishes to begin grading operations October 7, 1991. If you have any questions please call.

Sincerely,

Dennis A. Lorenz P.E.

np

11930 MENAUL NE, SUITE 111 ALBUQUERQUE, NEW MEXICO 87112 (505) 296-0422 (505) 296-0466 FAX

BRASHER
ENGINEERING
INC.

September 26, 1991

Cliff Anderson
Albuquerque Metropolitan Flood Control Authority
2600 Prospect N.E.
Albuquerque, NM 87106

RE: Drainage Outfall Design- La Merced de Atrisco.

Dear Mr Anderson:

Transmitted herewith is a copy of the design proposal for the drainage outfall of La Merced de Atrisco at 98th and Unser. As we have discussed, this consists of a temporary desiltation/ detention pond with a 24" outlet to the Ladera Channel. If you would provide me any comments you have as soon as possible, we will incorporate them before we submit to DRC.

The City has informed us that the City will assume ownership and maintenance of these facilities. To this end, we are working toward securing easements from Westland (the intervening property owner) and encroachment agreements from PNM and Plains Electric,all in the City's name. We will be preparing the AMAFCA license also for the City.

Any comments you have for me will be appreciated.

Sincerely,

Paul Brasher, P.E.

11930 MENAUL NE, SUITE 111 ALBUQUERQUE, NEW MEXICO 87112 (505) 296-0422 (505) 296-0466 FAX

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LA MERCED DE ATRISCO ZONE ATLAS/DRNG. FILE #: H-9 DIE

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

LEGAL DESCRIPTION: TRACT A-1 EL RANCHO ATRISCO

CITY ADDRESS: 98TH AT UNSER

ENGINEERING FIRM: BRASHER ENGINEERING CONTACT: D. LORENZ

ADDRESS: 11930 MENAUL NE #111 PHONE: 296 0422

OWNER: PRESLEY CO. NM CONTACT: JAMES HICKS

ADDRESS: 1909 CARLISLE NE PHONE: 265-5811

ARCHITECT: NA CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: NA CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: NA CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAINAGE PLAN

__X__ GRADING PLAN

__X__ EROSION CONTROL PLAN

____ ENGINEER'S CERTIFICATION

____ OTHER _____

PRE-DESIGN MEETING:

____ YES

____ NO

____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL

____ 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 APPROVAL

__X__ GRADING PERMIT APPROVAL

____ PAVING PERMIT APPROVAL

____ S.A.D. DRAINAGE REPORT

____ DRAINAGE REQUIREMENTS

____ OTHER _____ (SPECIFY)

RECEIVED
SEP 23 1991
HYDROLOGY DIVISION

DATE SUBMITTED: _____

BY: D. LORENZ

BRASHER ENGINEERING INC.

SEP 2 3 1991
HYDRO

September 23, 1991

Mr. Gilbert Aldaz PE & LS
Civil Engineer/Hydrology
Public Works Department
PO Box 1293
Albuquerque, NM 87103

Subject: Rough Grading Approval
La Merced De Atrisco (H9/D1E)

Dear Gilbert:

Submitted herewith for rough grading approval are plan sheets 4, 34, 38, 39, and 40, and pond routing calculations for the interim detention pond and outlet works. This submittal satisfies items 3, 6, 8, and 11 of your September 16, 1991 comment letter. Concerning item 5, the 1986 Emergency Rule was used to develop hydrology for the project. If you have any specific problems concerning the calculations please let me know. The documents mentioned in items 1 and 2 will be forwarded to you as soon as the are available. The remaining items (4, 7, 9, & 10) will be addressed with the DRC submittal.

Please review the submittal as soon as possible. The owner wishes to begin grading operations October 7, 1991. If you have any questions please call.

Sincerely,

Dennis A. Lorenz P.E.

np

11930 MENAUL NE, SUITE 111 ALBUQUERQUE, NEW MEXICO 87112 (505) 296-0422 (505) 296-0466 FAX

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

September 16 1991

Dennis A. Lorenz, P.E.
Brasher Engineering, Inc.
11930 Menaul Boulevard, NE Suite #111
Albuquerque, New Mexico

RE: DRAINAGE REPORT FOR PHASE I AT LA MERCED DE ATRISCO
RECEIVED AUGUST 23 AND SEPTEMBER 9, 1991 FOR PRELIMINARY PLAT APPROVAL (H-9/D1E)

Dear Mr. Brasher:

Based on the information provided on the referenced submittal received September 9 1991, the report is approved for Preliminary Plat for Phase I.

Please be advised that prior to Work Order or Final Plat approval, the following comments should be addressed:

1. An easement from Westland Development for the construction of the interim pond and storm drain across their property.

2. An Encroachment Agreement for the proposed pond on the PNM easement.

3. A detailed grading plan for all the improvements onsite and offsite.

4. The proposed manhole at the northeast corner in the private property is unacceptable. Please straighten out this storm drain alignment, or place within right-of-way.

5. The Emergency Rule of 1986 deleted the method you used for determining the volume calculations. Volume and hydrograph determinations will be done according to part C.2. page 7, and part F page 19, of the D.P.M. regardless of watershed size. Please revise your volume calculations accordingly.

6. You show the allowable release rate as a constant for the hydrograph volumes calculated in item 5. The release rate is not constant, it varies with available head, please revise your calculations accordingly.

7. The proposed pond must be designed to City standards, since it will contain public waters. If the pond is deeper than 18 inches then a fence with a gate may be appropriate.

✓8. An erosion control plan per the D.P.M. Checklist should be submitted.

9. On page 18 of your calculations you reference an 18 inch storm drain. Where is this located on your plan?

10. You will need to assure Hydrology that the proposed storm drain will not be located under the future curb of Atrisquenos Street. It appears that curvilinear storm drain may be appropriate.

✓11. Please include a detail of your orifice control outlet from the pond. Include the calculations for sizing the allowable release rate.

If you have any questions, please do not hesitate to call me at 768-2650.

Cordially,

Gilbert Aldaz, P.E. & P.S.
Civil Engineer/Hydrology

xc: Leroy Chavez, Westland Inc.

GA
(WP+516)

9/13/91

Prepared by Gilbert A

Controlling Volume

@ AP #8

BASIN → B+Y+8 Area = 106 acres

C = 0.41 CN = 70 TYPE "B" Soil

$$S = \frac{1000}{70} - 10 = 4.3$$

$$Q = \frac{(2.2 - 0.2 \times (4.3))^2}{2.2 + 0.8(4.3)} = 0.32$$

$$Vol = \frac{0.32''}{12''/1'} \times \frac{43{,}560 ft^2}{ac} \times 106 acres = 123{,}129 CF$$

Basin Y+8 (Developed)

Area = 34.7 + 3.3 = 38 acres

% Imp = 65% → CN = 85 TYPE "B"

$$S = \frac{1000}{85} - 10 = 1.76$$

$$Q = \frac{(P - 0.2 \times S)^2}{P + 0.85} = \frac{(2.2 - 0.2 \times 1.76)^2}{2.2 + 0.8 \times 1.76} = 0.95''$$

$$Vol = \frac{0.95''}{12''/ft} \times 43{,}560 ft^2 \times 38 acres = 131{,}043 CF$$

BRASHER ENGINEERING INC.

P... DIVISION

September 9, 1991

RECEIVED
SEP 9 1991
HYDROLOGY ...

Mr. Gilbert Aldaz, P.E. & L.E.
Civil Engineer / Hydrology
City of Albuquerque
Public Works Department
Post Office Box 1293
Albuquerque, New Mexico 87103

SUBJECT: DRAINAGE REPORT FOR LA MERCED DE ATRISCO
REFERENCE H9/D1E

Dear Gilbert:

This letter serves as our written response to your comment letter dated June 24, 1991. I will address your comments item by item, which should assist your review of our August 23, 1991 submittal.

ITEMS 1-3

As shown by plan sheets 1-4, the outfall across Tract A-2-A has been revised. The property owners felt that an improvement beneficial to future development of Tract A-2-A would be a better solution. The revised outfall utilizes an interim detention pond on Tract A-2-A at the terminus of Atrisquenos Street that will detain all flows previously conveyed by the interim channel. The pond will drain by a 24-inch storm drain placed within the future alignment of Atrisquenos Street. The outfall will be at the Ladera Diversion and Detention Facility, where an impact type stilling basin will be employed as per AMAFCA criteria. To prohibit erosion we propose to line the pond bottom and dike approaches with soil cement. Final design details for the pond, pond outlet works, and impact stilling basin will be provided at DRC review.

Westland Development has reviewed this concept and given verbal approval. As soon as written approval is available we will forward a copy to you.

ITEM 4

The trainer dike along Atrisquenos Street is regraded to provide 1% slope for the southerly 500 feet immediately upstream from the pond. The upstream section of the dike remains at 0.5%. We have looked at many grading alternatives, but unfortunately the natural topography will not provide the 1% slope you request along the entire length of the dike. A continuous 1% slope results in excessive fills at the north end and/or excessive cuts at the south end. We feel this compromise solution is in the best interest of the project.

11930 MENAUL NE, SUITE 111 ALBUQUERQUE, NEW MEXICO 87112 (505) 296-0422 (505) 296-0466 FAX

BRASHER
ENGINEERING
INC.

ITEM 5

This is a drafting error and was corrected.

ITEM 6

The calculations on page 8 of appendix "A" test a standard drop inlet grate for capacity. The calculations show that adequate capacity is provided with a single D.I. installation. To provide ample factor of safety we will install 2 inlets, one on each side of the street. The 24-inch storm drain should provide approximately 168% of the capacity required.

ITEM 7

We agree with your recommendations on placement of standard curb and gutter. The plans are revised to reflect the required locations.

ITEM 8

Drainage from rear yards on lots 1-19 is programmed to discharge into 98th Street and Unser Blvd. The Presley Company will construct a CMU perimeter wall on the property line along this interface. Drainage outlets will be provided at the low corner of each lot. This detail will be provided with the final grading plan to be submitted to DRC. Property owners will be required, by note on the plat and grading plan, to limit the discharge of nuisance flows into adjacent streets per current city ordinance. Your input on acceptable language for the notes would be appreciated.

ITEM 9

The updated infrastructure list is enclosed.

Please review this information along with the drainage report ASAP. Preliminary plat approval was granted by DRB, so your approval will allow for submittal of design drawings to DRC. If your have any questions please call me or Paul Brasher.

Sincerely,

Dennis A. Lorenz, P.E.

Enclosures
DL:cgb

11930 MENAUL NE, SUITE 111 ALBUQUERQUE, NEW MEXICO 87112 (505) 296-0422 (505) 296-0466 FAX

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LA MERCED DE ATRISCO ZONE ATLAS/DRNG. FILE #: H-9 D1E

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

LEGAL DESCRIPTION: TRACT A-1 EL RANCHO ATRISCO

CITY ADDRESS: 98TH AT UNSER

ENGINEERING FIRM: BRASHER ENGINEERING CONTACT: PAUL BRASHER

ADDRESS: 11930 MENAUL NE SUITE 111 PHONE: 296 0422

OWNER: PRESLEY COMPANY CONTACT: C. REYNOLDS

ADDRESS: 1909 CARLISLE NE PHONE: 265-5811

ARCHITECT: NA CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: NA CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: NA CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

X DRAINAGE REPORT
___ DRAINAGE PLAN
___ CONCEPTUAL GRADING & DRAINAGE PLAN
___ GRADING PLAN
___ EROSION CONTROL PLAN
___ ENGINEER'S CERTIFICATION
___ OTHER

PRE-DESIGN MEETING:

X YES
___ NO
Y COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL
X PRELIMINARY PLAT APPROVAL
___ S. DEV. PLAN FOR SUB'D. APPROVAL
___ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
___ SECTOR PLAN APPROVAL
___ FINAL PLAT APPROVAL
___ FOUNDATION PERMIT APPROVAL
___ BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ GRADING PERMIT APPROVAL
___ PAVING PERMIT APPROVAL
___ S.A.D. DRAINAGE REPORT
___ DRAINAGE REQUIREMENTS
___ OTHER _____ (SPECIFY)

RECEIVED
AUG 23 1991
HYDROLOGY DIVISION

DATE SUBMITTED: 8-23-91

BY: PAUL BRASHER

BRASHER ENGINEERING INC.

RECEIVED
AUG 23 1991
HYDROLOGY DIVISION

August 23, 1991

Fred Aguirre
Public Works Department
City of Albuquerque
Post Office Box 1293
Albuquerque, New Mexico 87103

RE: LA MERCED DE ATRISCO - DRAINAGE REPORT SUBMITTAL

Dear Mr. Aguirre:

Transmitted herewith is the Drainage Report for La Merced de Atrisco, revised to reflect our recent discussions of modification to the outfall across lands of Westland. The concept as described provides for a detention pond with a 24" outfall to the Ladera system. The pond and line are intended to serve first phase through ultimate development of La Merced. When eventually a road is constructed across Westland lands (Tract A-2-A), and over the Ladera system, the pipe will drain series of drop inlets, and the roadway will drain the balance of 100 year developed flows.

Our intent is to design and construct these improvements in accordance with City standards and place the line within the corridor of the future road. We also intend that easements will be provided for City maintenance of these facilities.

It would be of great assistance to us if you would review this submittal as soon as possible. Our intend is such that we must begin rough grading at the earliest possible date.

If you have any questions, please contact me.

Sincerely,

Paul Brasher, P.E.

11930 MENAUL NE, SUITE 111 ALBUQUERQUE, NEW MEXICO 87112 (505) 296-0422 (505) 296-0466 FAX

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 24, 1991

Paul Brasher
Brasher Engineering, Inc.
11930 Menaul Boulevard, NE Suite #111
Albuquerque, New Mexico

RE: DRAINAGE REPORT FOR PHASE I AT LA MERCED DE ATRISCO
RECEIVED JUNE 11, 1991 FOR PRELIMINARY PLAT APPROVAL (H-9/D1E)

Dear Mr. Brasher:

Based on the information provided on the referenced submittal received June 11, 1991, the following comments should be addressed prior to approval of Preliminary Plat for Phase I:

1. Attached is a letter from Westland Development, dated March 1, 1989. This letter outlines their concerns regarding the proposed channel across Tract A-2-A. One concern they have is requiring them to build costly storm drains to carry La Merced's drainage. Since they have this concern and others in this letter I would like to request that you secure a letter from Westland stating that all these concerns have been addressed.

2. Since the channel across Tract A-2-A will be carrying public waters with a flow rate of 122 cfs and a velocity of 13.4 fps, I am not convinced that asphalt lining is stable. We do not have an idea of how long it will be before Tract A-2-A will develop. Therefore, concrete appears to be the only acceptable alternative for this channel.

3. The concrete inlet for the channel across Tract A-2-A must be extended up into and between the dikes proposed. This is to help prevent erosion along the side of this channel and to have flows transition into the channel more smoothly. Also a cutoff wall will be required at the inlet of this channel.

4. According to the street grades on Atrisquenos Street you are proposing 0.5% slopes; therefore the swale along the parallel dike will only be 0.5%, which is unacceptable for drainage. If this is the case, then a hardlined swale will be required along the west end of the dike for 0.5% slopes. Otherwise, provide enough grading to demonstrate that a 1% swale can be constructed in order for the swale to remain natural as proposed.

5. You show a number of bends for the 24 inch storm drain at analysis point 16. Please delete the bends or provide a manhole at each bend.

6. The catch basin at analysis point 16 should be a type "A" with a double throat, this inlet is less susceptible to clogging. Please be advised that this inlet and storm drain must be sized for 125% of the 100 year flow rate or provide an emergency overflow channel.

7. I am concerned about the amount of flows you are proposing on streets with mountable curb. As an added precaution I recommend that the following streets be provided with additional standard curb:

   A. Along the entire length of Atrisquenos Street and around all curb returns.

   B. Around the entire curves at Ramon Herrera and around the curb returns.

   C. Around the entire curve of Rancho Estero Road.

8. How are you proposing to contain nuisance flows from crossing Unser Boulevard's and 98th Street sidewalk for Lots 1-19.

9. Please submit a infrastructure list with your next submittal for our review.

If you have any questions, please do not hesitate to call me at 768-2650.

Cordially,

Gilbert Aldaz, P.E. & P.S.
Civil Engineer/Hydrology

xc: Leroy Chavez, Westland Inc.

GA
(WP+516)

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LA MERCED DE ATRISCO ZONE ATLAS/DRNG. FILE #: H9/D1E

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

LEGAL DESCRIPTION: TRACT A-1 EL RANCHO ATRISCO

CITY ADDRESS: 98TH AT UNSER

ENGINEERING FIRM: BRASHER ENGINEERING, INC CONTACT: PAUL BRASHER

ADDRESS: 11930 MENAUL NE SUITE 111 PHONE: 296-0422

OWNER: PRESLEY CO OF NM CONTACT: JAMES HICKS

ADDRESS: 1909 CARLISLE NE PHONE: 265-5811

ARCHITECT: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: ESPEY HUSTON & ASSOC. CONTACT: PAUL BRASHER

ADDRESS: 11930 MENAUL BLVD NE PHONE: 296-0422

CONTRACTOR: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

X DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

___ OTHER

PRE-DESIGN MEETING:

X YES

___ NO

___ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

X PRELIMINARY PLAT APPROVAL

___ S. DEV. PLAN FOR SUB'D. APPROVAL

___ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL

___ SECTOR PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ BUILDING PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ GRADING PERMIT APPROVAL

___ PAVING PERMIT APPROVAL

___ S.A.D. DRAINAGE REPORT

___ DRAINAGE REQUIREMENTS

X OTHER _____ (SPECIFY)

RESPONSE TO CITY COMMENTS

RECEIVED
JUN 11 1991
HYDROLOGY DIVISION

DATE SUBMITTED: 6.11.91

BY: Paul Brasher

ESPEY,
HUSTON &
ASSOCIATES, INC.
Engineering & Environmental Consultants

RECEIVED
JUN 11 1991
HYDROLOGY DIVISION

September 18, 1990

Mr. Fred Aguirre
CE Hydrology Section
Public Works Department
P. O. Box 1293
Albuquerque, New Mexico 87103

SUBJECT: Drainage Report for La Merced de Atrisco
EH&A Job No. 10073

Dear Fred:

Submitted herewith for review and approval is one copy of the Revised Drainage Report for the subject project. This submittal addresses comments contained in your letter dated August 31, 1989 (attached). The project has been on hold since last fall, but the client is now ready to pursue work order. Preliminary plat and infrastructure list approval were granted on July 31, 1990; therefore, approval of this report will allow for submittal of work order plans to DRC.

The following list itemizes our response to your comments:

1. Interim erosion control facilities are to be provided per the plan. These facilities will be sized to retain the 10-year event as required. In addition to off-site and perimeter facilities, each lot will be required to retain its runoff until final improvement of the lot. Detail "B" is provided on Sheet 2 of 2 of the plan to illustrate how this is to be accomplished.

2. These calculations have been corrected by adjusting the time of concentrations.

3. The locations where standard curb and gutter are required are now illustrated on the plan. Regarding excessive street depths on streets constructed across transversely sloping terrain, standard curb and gutter is proposed on

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Don Francisco which holds street depths below top of curb. On Atrisquenos, since no lots directly access the street, the sidewalks will be constructed, thereby providing grade control along the interface between the public right-of-way and the eastern row of lots. It is also our intent to hold the pads of these lots at or above adjacent top of curb grade. We feel that these measures provide adequate factor of safety.

4. The pond and spillway design details will be provided for review by yourself and DRC with the subsequent work order submittal.

5. Section A-A and B-B on plan Sheet 2 of 2 are revised to provide freeboard per DPM criteria. However, we feel it is excessive to ask for an interim concrete lined channel.

6. Yes, this existing channel is Section B-B on plan Sheet 2 of 2. It has been revised to include freeboard.

7. This will be provided on the final plan.

8. Corrected.

9. The flowrate and channel width are revised. We now recommend an 11-foot-wide channel within a 12-foot drainage ROW.

10. Corrected.

11. The rundown in question is shown on plan Sheet 2 of 2. Flows in Unser drain into the median via this rundown. The flow is then intercepted by a manhole with a slotted cover.

12. This inlet is in a sump condition and is expected to collect 2.5 cfs per the hydrology. The drainage basin area is outlined on plan Sheet 1 of 2.

13. Done.

14. Final grading plan and pond details will be submitted to DRC as a work order package. Drainage easements for the interim detention pond and south swale will be obtained from Westland prior to work order. The attached letter from Westland confirms their approval of this drainage report.

Espey, Huston and Associates, Inc. has recently received comments from AMAFCA, dated July 24, 1990 (attached). These comments were issued in response to request for extension of preliminary plat approval.

We have reviewed the "Erosion Study, Mirehaven Arroyo Adjacent to La Merced de Atrisco Subdivision", January 1988 by Easterling & Associates, Inc. and find the assumptions and recommendations acceptable for the development of La Merced de Atrisco.

Please review this submittal at your earliest convenience. If you have any questions, please call me or Jim Leymon so that we may address your concerns with a minimum of delay.

Sincerely,

Dennis A. Lorenz, P.E.

/kh

cc: Rick Semones, Presley Company

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 21, 1991

Paul Brasher
Brasher Engineering, Inc.
11930 Menaul Boulevard, NE Suite #111
Albuquerque, New Mexico

RE: DRAINAGE REPORT FOR LA MERCED DE ATRISCO, RECEIVED APRIL 30, 1991 FOR PRELIMINARY PLAT APPROVAL (H-9/D1E)

Dear Mr. Brasher:

Attached is a copy of a letter dated August 31, 1989 to Dennis Lorenz, from Stuart Reeder of this department, regarding the above referenced project. I cannot locate in your submittal the response to the 15 comments issued by this office on August 31, 1989. The attached comments need to be addressed prior to approval by this office.

The other main thing I could not find in this report is your proposed grading plan. Until we receive the needed information, I cannot comment on the report.

If you should have any questions, please do not hesitate to call me at 768-2650.

Cordially,

Gilbert Aldaz, P.E. & P.S.
Civil Engineer/Hydrology

GA
(WP+516)

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LA MERCED DE ATTRISCO ZONE ATLAS/DRNG. FILE #: H-9 D1E

DRB #: 89-145 EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: TRACT A-1, EL RANCHO ATTRISCO

CITY ADDRESS: 98TH ST AT UNSER, (S.W. CORNER)

ENGINEERING FIRM: ESPEY, HUSTON & ASSOC CONTACT: PAUL BRASHER

ADDRESS: c/o BRASHER ENGINEERING, INC. 11930 MENAUL NE STE 111 PHONE: 296-0422

OWNER: PRESLEY CO. OF N.M. CONTACT: C. REYNOLDS

ADDRESS: 1909 CARLISLE NE PHONE: 265-5811

ARCHITECT: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: ESPEY, HUSTON & ASSOC. CONTACT: PAUL BRASHER

ADDRESS: c/o BRASHER ENGINEERING, INC. 11930 MENAUL NE STE 111 PHONE: 296-0422

CONTRACTOR: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

X DRAINAGE REPORT
___ DRAINAGE PLAN
___ CONCEPTUAL GRADING & DRAINAGE PLAN
___ GRADING PLAN
___ EROSION CONTROL PLAN
___ ENGINEER'S CERTIFICATION
___ OTHER

PRE-DESIGN MEETING:

X YES
___ NO
X COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL
X PRELIMINARY PLAT APPROVAL
___ S. DEV. PLAN FOR SUB'D. APPROVAL
___ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
___ SECTOR PLAN APPROVAL
___ FINAL PLAT APPROVAL
___ FOUNDATION PERMIT APPROVAL
___ BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ GRADING PERMIT APPROVAL
___ PAVING PERMIT APPROVAL
___ S.A.D. DRAINAGE REPORT
___ DRAINAGE REQUIREMENTS
___ OTHER _____ (SPECIFY)

RECEIVED
APR 30 1991
HYDROLOGY DIVISION

DATE SUBMITTED: 4.29.91

BY: PAUL BRASHER

H-9/DIE

R. WARD HUNNICUTT, CHAIRMAN
PAT D. HIGDON, VICE-CHAIRMAN
REX FUNK, SECRETARY-TREASURER
DANIEL W. COOK, DIRECTOR
RONALD D. BROWN, DIRECTOR

LARRY A. BLAIR
EXECUTIVE ENGINEER

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority

2600 PROSPECT N.E. - ALBUQUERQUE, N.M. 87107
TELEPHONE (505) 884-2215

RECEIVED
MAY 2 3 1989
HYDROLOGY SECTION

May 22, 1989

Dennis A. Lorenz, P.E.
Espey, Huston & Associates, Inc.
317 Commercial Street NE
Albuquerque, New Mexico 87102

RE: La Merced de Atrisco

Dear Mr. Lorenz:

AMAFCA has reviewed the Drainage Report for La Merced de Atrisco (dated March, 1989) and has discussed the project with Mr. Fred Aguirre, AMAFCA's designee at the City of Albuquerque. Based on this review we have determined the following:

a. Drainage flow to the Mirehaven Arroyo will not be increased by the proposed subdivision.

b. Under existing conditions, there is adequate capacity in the downstream Ladera Pond No. 13 to accommodate the additional runoff from this subdivision.

c. The City of Albuquerque, Public Works Department, Hydrology Section has approved free discharge for this subdivision, and the design of the subdivision has proceeded based on this approval.

Based on the above information, AMAFCA approves of the drainage report which allows free discharge to the Ladera Channel above Pond No. 13. We recognize that until downstream capacity is increased, that free discharge may place additional drainage restrictions on upstream properties.

Final plans for construction on AMAFCA's right-of-way should be submitted to AMAFCA for approval. A license agreement must also be completed prior to construction.

Sincerely,

Clifford E. Anderson, PE & LS
Drainage Engineer

cc: Rick Semones, Presley Company of New Mexico
Fred Aguirre, Hydrologist, City of Albuquerque

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

KEN SCHULTZ
MAYOR

August 31, 1989

Dennis E. Lorenz, P.E.
Espey, Huston, Inc.
317 Commercial Street, NE
Albuquerque, New Mexico 87102

RE: GRADING AND DRAINAGE REPORT FOR LA MERCED DE ATRISCO, SUBMITTED JUNE 29, 1989, FOR PRELIMINARY PLAT APPROVAL AND WORK ORDER APPROVAL (H-9/D1E)

Dear Mr. Lorenz,

I have reviewed your submittal, referred to above, and have the following comments concerning it:

1. Erosion control measures must be sized to retain the storm runoff from the 10 year event.

2. On page 3 of the calculations, you show Drainage Basin 15 as having a peak flow of 28.6 cfs. Downstream it increases to 30.3 cfs, and then decreases to 28 cfs at AP #25. I suggest that you consult the D.P.M. for the overland flow method of determining velocity and time of concentration to avoid having this trouble. Peak flows downstream cannot possibly be smaller than peak flows upstream.

3. On page 4 of the calculations in Appendix A you indicate the type of the curb to be used. Please indicate on the drawing where the mountable curb will become a standard curb and then back to a mountable curb on Don Francisco Street. On those streets around which the terrain slopes transversely, that is, a north south street where the terrain slopes generally to the east or to the west, you will need to confine the depth of the storm water runoff to the height of the curb. We have no way of controlling the contractor to insure that the downstream side of the street will not overflow into private property. These streets are along AP 4, which is the north-south section of Don Francisco Avenue, and the main north-south street which runs through AP's 8, 11 and 12.

You have a note on this page that says see superelevation calculations for the outside curb on page 8. This should say page 11.

4. Page 7 of the calculations shows the preliminary design of the emergency spillway. To approve this submittal for work order and preliminary plat, we will need the final design and details of the emergency spillway, which should show some freeboard.

5. On page 9 of the calculations you show the proposed section for the interim drainage swale, which is Section A-A on the plans. This section will require freeboard per the D.P.M. and must be a concrete lined channel to convey public waters. It will also need to be confined within a public easement.

6. On page 10 of the calculations you show a section showing the rundown at Unser Boulevard. Is this Section B-B on Sheet 2 of the plans?

7. On page 11 of the Appendix A calculations you determine the ponding volume required for Lot 57 and state that no roof drainage will be allowed to the back yard. Please show roof drain arrows on your Final Grading Plan.

8. On sheet 12 of the calculations, the Q_{100} given under item number G is incorrect, please refer to page three of your calculations.

9. The incorrect Q_{100} on Item G affects the depth of water which you calculate for the 10 foot channel. This channel will have to be widened and I suggest you check the right-of-way required for it. On page 13, you show a 10 foot inside measurement channel which you try fit in a 10 foot right-of-way.

10. On page 14, the Q_{100} is incorrect. The 25.9 cfs should be 28.6, and on Item H the 8.6 cfs should be 9.5. Please refer to page 3.

11. On page 15 of the calculations you check a rundown capacity on Unser at AP 24. Would you elaborate on what rundown is at AP 24 as none is shown on the grading and drainage plan.

12. On page 16 of the calculations: Item J, the inlet capacity at AP 22 - are these inlets existing, are they in a sump condition, and how much water, total, is expected to enter the catch basin at this point?

13. On page 17 of the calculations you upsize the pipe at the northeast corner of this subdivision from an 18 inch to a 24 inch. Kindly change the pipe size on the plans.

14. For preliminary plat approval, please submit the following:

    A. The final grading plan for this subdivision.

B. The details of the interim pond showing the limits of the pond on the plan and the details of construction including the emergency spillway and the pond drain line. Including details of how the pond drain line pipe is to interface with Rancho Estero Road.

C. A drainage easement for the area covered by the interim detention pond from Westland, and a drainage maintenance covenant, which covers who will be responsible for maintaining the pond.

D. The letter from the upstream land owners in which they agree that when they develop they will divert all flows from this site and be responsible for making improvements to the Mirehaven Channel.

15. For work order approval please submit the finished work order drawings.

If you have any questions, please call me at 768-2650.

Cordially,

Stuart Reeder

G. Stuart Reeder, P.E.
C.E./Hydrology Section

GSR/bsj
(WP+516)

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LA MERCED DE ATRISCO ZONE ATLAS/DRNG. FILE #: H9/D1E

LEGAL DESCRIPTION: TRACT A1 EL RANCHO ATRISCO UNIT 5

CITY ADDRESS: 98TH AT UNSER NW

ENGINEERING FIRM: ESPEY HUSTON & ASSOC CONTACT: D. LORENZ

ADDRESS: 317 COMMERCIAL NE PHONE: 242 1909

OWNER: PRESLEY CO NM CONTACT: R. SEMONES

ADDRESS: 1909 CARLISLE NE PHONE: 256-5811

ARCHITECT: NA CONTACT:

ADDRESS: NA PHONE:

SURVEYOR: ESPEY HUSTON CONTACT: T. ALDRICH

ADDRESS: SAME PHONE:

CONTRACTOR: NA CONTACT:

ADDRESS: NA PHONE:

RECEIVED
JUN 29 1989
HYDROLOGY SECTION

PRE-DESIGN MEETING:

X YES

___ NO

X COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. _____

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

X DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

X PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

X OTHER WORK ORDER (SPECIFY)

DATE SUBMITTED: 6-28-89

BY: D. LORENZ

ESPEY,
HUSTON &
ASSOCIATES, INC.
Engineering & Environmental Consultants

RECEIVED
JUN 2 9 1989
HYDROLOGY SECTION

June 28, 1989

Mr. Stuart Reeder, P.E.
CE/Hydrology
Public Works Department
P. O. Box 1293
Albuquerque, New Mexico 87103

SUBJECT: La Merced de Atrisco (H-9/D1E)
EH&A Job No. 10073

Dear Stuart:

Submitted herewith for approval is one copy of the revised drainage report for the subject project. The report incorporates revisions made as a result to your comment letter dated April 28, 1989, and subsequent meetings. Several items require further discussion. I therefore have the following response to your comments:

COMMENT 1:

The offsite flows will be managed on an interim basis by utilizing a detention pond located immediately west of the project. The internal street network is not capable of conveying undeveloped flows from the 67.9 acre off-site basin. The detention pond will therefore discharge at a controlled rate of 4 cfs into Rancho Estero Road. This discharge rate will drain the pond within 6 hours. Upstream development will be required to discharge at a rate that will not stress downstream improvements. The Northwest Mesa Drainage Management Plan, prepared by Scanlon & Associates, programs the off-site basin to drain directly to the Mirehaven Arroyo. This obviously will require improvement to the arroyo which is not practical at this time. The management of these offsite flows is consistent with established drainage criteria. We are pursuing approval from Westland Development Co., Inc., owners of the offsite land, and will forward their approval when available.

COMMENTS 2 and 3:

The hydrology calculations have been revised per your recommendations.

COMMENT 4:

The difference in flow rates was the result of an error in time of concentration for analysis point 17. This has been corrected.

317 Commercial St. N.E. • Albuquerque, New Mexico 87102 • (505) 242-1909

COMMENT 5:

The increase in volume to Pond No. 13 reported as 0.5 acre-feet is in fact incorrect. This error was noted and a revision dated March 27, 1989 issued to your office and AMAFCA. Apparently it did not reach your file. The revision reports an increase of approximately 2.0 acre-feet, from La Merced de Atrisco only. Since the off-site basin drains to Pond No. 13 under existing conditions, that volume does not constitute an increase.

This report is not attempting to establish proportionate discharge volumes for each basin draining to Pond No. 13. The fact exists that excess storage is available and this development has been given permission by AMAFCA to utilize it. This of course means that future upstream developments may be required to limit discharge until improvements to Pond No. 13 are made. However, due to the nebulous nature of future development in this area, anything is possible, and the improvements to the Ladera system may be available prior to development.

Please review this submittal at your earliest convenience. If you have any questions, please call.

Sincerely,

Dennis A. Lorenz, P.E.

/kh

Enclosure

cc: Rick Semones, Presley Company of New Mexico.

R. WARD HUNNICUTT, CHAIRMAN
PAT D. HIGDON, VICE-CHAIRMAN
REX FUNK, SECRETARY-TREASURER
DANIEL W. COOK, DIRECTOR
RONALD D. BROWN, DIRECTOR

LARRY A. BLAIR
EXECUTIVE ENGINEER

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority

2600 PROSPECT N.E. - ALBUQUERQUE, N.M. 87107
TELEPHONE (505) 884-2215

May 22, 1989

Dennis A. Lorenz, P.E.
Espey, Huston & Associates, Inc.
317 Commercial Street NE
Albuquerque, New Mexico 87102

RE: La Merced de Atrisco

Dear Mr. Lorenz:

AMAFCA has reviewed the Drainage Report for La Merced de Atrisco (dated March, 1989) and has discussed the project with Mr. Fred Aguirre, AMAFCA's designee at the City of Albuquerque. Based on this review we have determined the following:

a. Drainage flow to the Mirehaven Arroyo will not be increased by the proposed subdivision.

b. Under existing conditions, there is adequate capacity in the downstream Ladera Pond No. 13 to accommodate the additional runoff from this subdivision.

c. The City of Albuquerque, Public Works Department, Hydrology Section has approved free discharge for this subdivision, and the design of the subdivision has proceeded based on this approval.

Based on the above information, AMAFCA approves of the drainage report which allows free discharge to the Ladera Channel above Pond No. 13. We recognize that until downstream capacity is increased, that free discharge may place additional drainage restrictions on upstream properties.

Final plans for construction on AMAFCA's right-of-way should be submitted to AMAFCA for approval. A license agreement must also be completed prior to construction.

Sincerely,

Clifford E. Anderson, PE & LS
Drainage Engineer

cc: Rick Semones, Presley Company of New Mexico
Fred Aguirre, Hydrologist, City of Albuquerque

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

KEN SCHULTZ
MAYOR

April 28, 1989

Dennis E. Lorenz, P.E.
Espey, Huston, Inc.
317 Commercial Street, NE
Albuquerque, New Mexico 87102

RE: GRADING AND DRAINAGE REPORT FOR LA MERCED DE ATRISCO, SUBMITTED MARCH 23, 1989, FOR PRELIMINARY PLAT APPROVAL (H-9/D1E)

Dear Mr. Lorenz,

I have reviewed your submittal, referred to above, and have the following comments concerning it:

1. Please address the offsite flows properly. These flows must be quantified for fully developed conditions upstream and accepted as a permanent condition. Should the upstream landowners agree to divert all flows from this site, with the understanding that they will be responsible for making channel improvements all the way to Pond 12, and should you furnish us a report that quantifies these flows and the improvements necessary to divert them, we will be happy to review such an arrangement.

2. For existing, undeveloped conditions, please use a curve number of 70, "range land in fair condition". Runoff will increase to 0.32" from 0.116".

3. For calculating peak flows, please refer to the Mayor's Notice of Emergency Rule, published February 19, 1986, and the DPM Section 22.2,E.1 Peak Rates. Specifically, using the Rational Method for determining the peak flow from offsite Basin B yields Q = 110 cfs, which is far greater than the 47.4 cfs in your report.

4. Please remember that Q in = Q out. At the upstream end of the asphalt channel shown in section A-A, AP 12, you estimate the flow to be 92.4 cfs. At the downstream end of the channel, which has collected runoff along the way, you estimate the flow at 68.0 cfs.

5. On page 8 of the report, you estimate the increase in volume caused by development of this site to be 0.5 acre-feet. Using a curve number of 70 for undeveloped, a curve number of 82 for developed conditions, and guessing that the size of the tract is 57.9 acres, I calculate the increase in runoff to be 2.23 acre-feet. If I use your CN = 61 for undeveloped conditions, the increase in runoff volume is 3.22 acre-feet. Would you establish what the proportionate volume increase should be based upon the size of your site as a portion of the drainage basin which uses Pond No. 13?

If you have any questions, please call me at 768-2650.

Cordially,

G. Stuart Reeder, P.E.
C.E./Hydrology Section

GSR
(WP+516)

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LA MERCED DE ATRISCO ZONE ATLAS/DRNG. FILE #: H9 - D1E

LEGAL DESCRIPTION: TRACT A-1 EL RANCHO ATRISCO UNIT 5

CITY ADDRESS: 98TH AT UNSER NW

ENGINEERING FIRM: ESPEY HUSTON CONTACT: D. LORENZ

ADDRESS: 317 COMMERCIAL NE PHONE: 242 1909

OWNER: PRESLEY CO OF NM CONTACT: R. SEMONES

ADDRESS: 1909 CARLISLE NE PHONE: 265 5811

ARCHITECT: NA CONTACT:

ADDRESS: PHONE:

SURVEYOR: ESPEY HUSTON CONTACT: D. SEITZ

ADDRESS: PHONE:

CONTRACTOR: NA CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

X YES

___ NO

X COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. 89-19

EPC NO.

PROJ. NO.

TYPE OF SUBMITTAL:

X DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

RECEIVED
MAR 23 1989
HYDROLOGY SECTION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

X PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 3-23-89

BY: D. LORENZ

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

CONFERENCE RECAP

DRAINAGE FILE/ZONE ATLAS PAGE NO.: ~~H10~~ H9 DATE: 9/3/87

PLANNING DIVISION NOS: EPC: _____ DRB: _____

SUBJECT: _____

STREET ADDRESS (IF KNOWN): 98th & Unser SW Corner

SUBDIVISION NAME: Tract A1, El Rancho Atrisco Unit 5

APPROVAL REQUESTED:

✓	PRELIMINARY PLAT	____	FINAL PLAT
____	SITE DEVELOPMENT PLAN	____	BUILDING PERMIT
____	OTHER _____	____	ROUGH GRADING

	WHO	REPRESENTING
ATTENDANCE:	Jim Leymon	Espey Huston
	Jay Olson	" "
	Carlos Montoya	City
	Fred J. Aguirre	City
	Rick Semones	Priestly

FINDINGS:

- An approved drainage report required for subject request.
- Free discharge to the Mirenaven Diversion Acceptable per El Rancho Atrisco Unit 5 Drainage study
- Temporary on-site diversions constructed by SAD 215 can be removed with development on-site.
- More information needed on the permanency of the off-site diversion. Recommend discussion with Westland Development
- The drainage report must address ~~the~~ channel stability requirements along the west property line.
- Discharge to Unser is acceptable per Arterial street drainage requirements.

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED: Fred Aguirre SIGNED: Jim Leymon

TITLE: _____ TITLE: _____

DATE: 9/3/87 DATE: 9/3/87

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

CONFERENCE RECAP

DRAINAGE FILE/ZONE ATLAS PAGE NO.: ~~[illegible]~~ H9 DATE: 9/3/07

PLANNING DIVISION NOS: EPC: _____ DRB: _____

SUBJECT: _____

STREET ADDRESS (IF KNOWN): 98th & Unser SW corner

SUBDIVISION NAME: Tract A1, El Rancho Atrisco Unit 5

APPROVAL REQUESTED:

✓	PRELIMINARY PLAT	_____	FINAL PLAT
_____	SITE DEVELOPMENT PLAN	_____	BUILDING PERMIT
_____	OTHER	_____	ROUGH GRADING

_____

	WHO	REPRESENTING
ATTENDANCE:	Jim Lewis	Esperanza
	Jay Olson	"
	Carlos Montoya	City
	Fred J. Aguirre	City
FINDINGS:	Rick Semonci	Privately

- An approved drainage report required for subject request.
- Free discharge to the Mirenaken Diversion Accordance per El Rancho Atrisco Unit 5 Drainage Study
- Temporary on-site diversions constructed by SAD 215 can be removed with development on-site
- More information needed on the permanency of the off-site diversion. Recommend discussion with Westland Development
- The drainage report must address ~~the~~ channel stability requirements along the west property line.
- Discharge to Unser is acceptable per arterial street drainage requirements.

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED:	[signature]	SIGNED:	[signature]
TITLE:	"	TITLE:	"
DATE:	9/3/07	DATE:	9/3/07

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL

ESPEY,
HUSTON &
ASSOCIATES, INC.
Engineering & Environmental Consultants

RECEIVED
MAR 23 1989
HYDROLOGY SECTION

March 23, 1989

Mr. Cliff Anderson, P.E., L.S.
Drainage Engiener
AMAFCA
2600 Prospect NE
Albuquerque, New Mexico 87107

SUBJECT: La Merced de Atrisco
EH&A Job No. 10073

Dear Cliff:

Submitted herewith for your review is one copy of the Drainage Report for the subject project. The report has been prepared to incorporate your comments within the body of the text. For clarity, let me summarize:

1. Per the documentation presented to you on March 22, 1989 (attached for your record), the City of Albuquerque Hydrologist has granted approval for free discharge of runoff from this site. This is justified for the following reasons:

   A. Per the NORTHWEST MESA DRAINAGE MANAGEMENT PLAN, Pond No. 13 has approximately 10 acre-feet of available storage. This site will add approximately 0.5 acre-feet due to development under interim conditions. Under full development conditions, with offsite basins diverted to the Mirehaven, a net reduction of storage released to Pond 13 results.

   B. Only La Merced de Atrisco is programmed to discharge developed runoff to Pond 13 by this report. The offsite basins will drain to Pond No. 13 under interim conditions only. This scenario avoids diversions to the Mirehaven Arroyo which are prohibited.

2. No diversion or discharge to the Mirehaven will occur with this development.

Please review this submittal at your earliest convenience. Preliminary plat public hearing is scheduled for Marcy 28, 1989. If you have any questions, please call.

Sincerely,

Dennis A. Lorenz, P.E.

/kh

Attachment

cc: Rick Semones, Presley Company of New Mexico
Fred Aguirre, City of Albuquerque

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
KEN SCHULTZ

CHIEF ADMINISTRATIVE OFFICER
GENE ROMO

DEPUTY CAO PUBLIC SERVICES
FRANK MARTINEZ

DEPUTY CAO PLANNING/DEVELOPMENT
BILL MUELLER

May 2, 1988

Dennis Lorenz, P.E.
Espey, Huston & Associates, Inc.
317 Commercial Street, NE
Albuquerque, New Mexico 87102

RE: DRAINAGE REPORT FOR LA MERCED DE ATRISCO (H-9/D1E)

Dear Mr. Lorenz:

The following items need to be addressed for the referenced site:

1. The subdivision west diversion berm was never construction as shown for the Unser Road drawings. Please show how the subdivision will be protected from the west off-site flows.

2. Please submit a new drainage plan which corresponds with the last updated plat submitted.

3. Please address items 4 and 5 of my letter dated December 15, 1987.

Should you have any questions regarding this project, please call me at 768-2650.

Cordially,

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

xc: Chuck Easterling, Easterling & Assoc.
Cliff Anderson, AMAFCA
Leroy Chavez, Westland Development

CAM/bsj

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR KEN SCHULTZ
CHIEF ADMINISTRATIVE OFFICER GENE ROMO
DEPUTY CAO PUBLIC SERVICES FRANK MARTINEZ
DEPUTY CAO PLANNING/DEVELOPMENT BILL MUELLER

April 26, 1988

Charles M. Easterling, P.E.
Easterling & Associates, Inc.
5643 Paradise Boulevard, NW
Albuquerque, New Mexico 87114

RE: DRAINAGE PLAN FOR LA MERCED DE ATRISCO
(H-9/D1E)

Dear Mr. Easterling:

This letter will document our meetings, comments, and approvals for the Mirehaven Erosion Study.

1. The report dated January 26, 1987, is approved.

2. The 20 foot prudent limit was established by this report. However, we were unable to set this limit in a field survey. Therefore, we concluded that the prudent limit would extend from the arroyo bank to the south property line of the subdivision.

3. The prudent limit concept is a temporary measure until the permanent improvements are made. Any future upstream development will require channel improvements at the Merced De Atrisco Subdivision.

4. The following items need to be addressed with the removal of portions of the south bank of the arroyo:

   a. Written concurrence from Westland Development.
   b. Need to indicate the area that needs to be removed.
   c. We will need to field check the work as it is being accomplished. Please contact this office when the work is to be accomplished.

5. At the subdivision west property line, a diversion is to be constructed for the offsite flows. Will this construction have an adverse affect on the Prudent Line?

6. Please show the Prudent Line on the subdivision plat.

Should you have any questions regarding this project, please call me at 768-2650.

Cordially,

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

xc: Dennis Lorenz, Espey, Huston & Assoc.
Cliff Anderson, AMAFCA
Leroy Chavez, Westland Development

CAM/bsj

ESPEY,
HUSTON &
ASSOCIATES, INC.
Engineering & Environmental Consultants

March 14, 1988

Mr. Jack Cloud, Chairman
and Members of the Development Review Board
Planning Department
City of Albuquerque
One Civic Plaza, N.W.
Albuquerque, New Mexico 87103

SUBJECT: La Merced De Atrisco
S-87-60/DRB-87-603
EH&A Job No. 10073

Dear Jack:

Per our conversation of 3/10/88, I am transmitting five (5) copies of the approved preliminary plat for La Merced de Atrisco and five (5) sketches of the property which Presley Company is desiring to plat into 50-foot-wide lots, for consideration at the next available DRB meeting. Specifically, Presley Company desires to plat 50-foot-wide lots, per Section 10.D.2. of the Comprehensive City Zoning Code, for the property identified on the approved preliminary plat as Lots 19-26, Block 1; Lots 1-15, Block 3; and Lots 23-68, Block 7. The proposed change in lot width adds 12 lots to the approved preliminary plat, and changes the total proposed lots from 244 to 256.

At the time of preliminary plat approval, it was a requirement of the DRB that the right-of-way width for the cul-de-sac portion of Jose Hurtato Place be increased to 50 feet. This requirement is recognized and accepted, but has not actually been incorporated. The addition of three (3) additional lots on the cul-de-sac portion of Pedro Cubero Place is not a significant increase and therefore should be allowed to maintain the 46 foot right-of-way width.

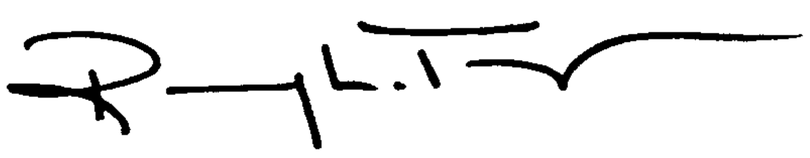
Additionally, please note the addition of one 10-foot-wide drainage easement on Lot 8, Block 1; and the relocation of a 10-foot-wide drainage right-of-way between Lots 15 & 16, Block 1. The 10-foot-wide drainage right-of-way previously shown between Lots 18 & 19, Block 1 is to be removed and replaced with the facilities noted above. The change results from an effort to reduce the amount of grading and earthwork on the property. Again, this change is not felt to be significant, is more efficient and helps reduce overall lot costs to the consumers. An updated drainage report will be provided prior to issuance of work order.

Finally, I have included a revised infrastructure list which identifies the appropriate changes. The changes being proposed results from changed market conditions, and more efficient and cost effective changes. Your consideration of this matter is requested in hopes that another public hearing can be avoided. It is our belief that these changes do not necessitate another public hearing and that these changes can be procedurally accepted at the time of final plat sign-off.

317 Commercial St. N.E. • Albuquerque, New Mexico 87102 • (505) 242-1909

Your assistance in this matter is greatly appreciated. If you should have any questions, please call.

Sincerely,



Randy L. Traynor
Senior Planner

/kh

Enclosures

cc: Lew Wilmot

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR KEN SCHULTZ

CHIEF ADMINISTRATIVE OFFICER GENE ROMO

DEPUTY CAO PUBLIC SERVICES FRANK MARTINEZ

DEPUTY CAO PLANNING/DEVELOPMENT BILL MUELLER

February 22, 1988

Chuck Easterling, P.E.
Easterling & Associates, Inc.
5643 Paradise Boulevard, NW
Albuquerque, New Mexico 87114

RE: DRAINAGE PLAN FOR MIREHAVEN EROSION STUDY (H-9)
RECEIVED JANUARY 26, 1988

Dear Mr. Easterling:

The above referenced plan dated January 26, 1988 is approved. Please be advised of the following conditions:

1. We are in the process of determining the "bank line" and the 20 foot prudent line in the field. Using this information, we will determine the platting limits for the subdivision.

2. The prudent limit is a temporary measure until the permanent improvement is made.

3. The maintenance of the prudent limit is an issue which needs to be discussed by all parties.

4. I sent comments to Espey, Huston on December 15, 1987, which still need to be addressed. These items need to be addressed prior to work order approval. Items dealing with the arroyo are being finalized by yourself.

Should you have any questions regarding this project, please call mea t 768-2650.

Cordially,

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

xc: Dan Sabo, AMAFCA

CAM/bsj

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

December 15, 1987

Dennis Lorenz, P.E.
Espey, Huston & Associates, Inc.
317 Commercial Street, NE
Albuquerque, New Mexico 87102

RE: DRAINAGE REPORT FOR LA MERCED DE ATRISCO
(H-9/D1E) RECEIVED DECEMBER 14, 1987

Dear Mr. Lorenz:

I have reviewed the referenced plan and forward the following comments:

1. The following items need to be corrected concerning the HEC II run.

   A. Please indicate start and stop points on the cross section.

   B. Sections should not cross each other. Please review the location of Section 6.

   C. The computed top widths need to be consistent between sections. For example, Section 8 has a top width of 360 ft. However, Section 7 has a top width of 120 feet.

2. The off-site berms were originally constructed to protect Unser Boulevard not as a protection for a subdivision. The hydraulic capacity of the berm has been examined. However, the construction method and adequacy of the berm needs to be addressed. Using the 100 year discharge of 47.4 cfs places the design of the berm under DPM criteria (Berms & Levees 22.3 pg 91).

3. The drainage report must address channel stability requirements along the west property line per the City Drainage Ordinance. The following references are available at this office for review:

   A. Engineering Analysis of Fluvial Systems by Simons, Li & Associates (1982)

   B. Design Guidelines and Criteria Channels and Hydraulic Structures on Sandy Soil by Simons, Li & Associates (1981)

   C. National Engineering Handbook, Section 3 (Second Edition) Sedimentation The Soil Conservation Service

   D. A.S.C.E. Journal - Erosion Risk Analysis for Southwestern Arroyo by Peter Lagasse

The following reports have dealt with channel stability for a particular site and they are on file at our office.

   A. Aggradation/Degradation Analysis of Piedras Marcadas Arroyo - Simons, Li & Associates, Inc. (1985)

   B. Calabacillas Arroyo Drainage Management Plan - Resource Technology, Inc. (1987)

   C. Bear Canyon Bank Stability - Leedshill-Herkenhoff, Inc. (1986)

   D. Hydraulic and Sediment Transport Analysis of Excavation in Calabacillas Arroyo (1985)

   E. Bank Stability Study West Branch Calabacillas Arroyo - Leedshill-Herkenhoff, Inc. (1986)

   F. Erosion Study to Determine Boundaries For Adjacent Development Calabacillas Arroyo - Simons, Li & Associates, Inc. (1983)

4. I am having difficulty understanding the table on Sheet 12. The design discharge in both 98th Street and Unser Boulevard needs to be for the developed condition. Please address the street cross sections which were used to evaluate water depth. Please address what is meant by the column headings.

5. Please address why a weir formula was not used on page 13 of the report. A weir situation occurs with very shallow depths versus a orifice equation.

Should you have any questions, please call me at 768-2650.

Cordially,

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

CAM/bsj

ESPEY,
HUSTON &
ASSOCIATES, INC.
Engineering & Environmental Consultants

RECEIVED
DEC 14 1987
HYDROLOGY SECTION

December 14, 1987

Mr. Carlos Montoya, P.E.
City/County Floodplain Administrator
City of Albuquerque
P. O. Box 1293
Albuquerque, New Mexico 87103

SUBJECT: Drainage Report for La Merced de Atrisco (H9/DIE)
EH&A Job No. 10073

Dear Carlos:

Submitted herewith for review and approval is the updated drainage report for the subject project. I have reviewed your comment letter dated December 9, 1987 and have the following response:

1. Design capacity calculations for the offsite diversion berm are provided in the report. A drainage covenant will be provided if required.

2. As discussed with Fred Aguirre, the future storm drainage system that may be required across Tract A-2-A is not required by this project.

3. Pad elevations and critical spot elevations are provided on the plan to identify retaining wall requirements.

4. Street depth and inlet capacity data are provided on page 12 and 13 of the calculations.

5. Exhibit "II" does not exist. The report text has been revised.

6. Street depth data is provided on page 10 of the calculations for the following streets:

   a. The curve on Francisco Navarro (AP 26)
   b. Intersection of Don Fernando Duran and Francisco Navarro (AP 8)
   c. Intersection of Pedro Cubero Place and Diego de Penalosa (AP 27)

7. DPM charts were utilized for inlet capacity (see page 12 of the calculations).

8. The flowrates at AP 13 and AP 17 differ as a result of the greater time of concentration and lower composite curve number at AP 17.

9. Easement and covenant will be provided for the inteim swale prior to work order request.

10. As per our discussion with Fred Aguirre, the requirement for a transition at the interface between the asphalt swale and existing rundown is noted on the plan(sheet 2 of 2).

11. Plains Electric will be consulted on the crossing of their easement with interim drainage facilities.

12. The drainage of Lots 58-68, 19-26, and 9-19 is described on the plan.

13. The existing inlet on 98th Street at Atrisquenos Street is located near the property line return. Curb and gutter return will be located 9 feet east, which should allow for standard location of the inlet. If this is not the case, proper detail or relocation will be coordinated with design hydrology prior to work order.

The only outstanding item is the treatment/setback requirement along the east side of the Mirehaven Arroyo. Per our meeting of December 10, 1987 with Fred Aguirre, you committed to research an acceptable method of establishing a setback line. We are willing and eager to assist you in any way we can. Please call me as soon as you are ready to meet and discuss your results.

Sincerely,

Dennis A. Lorenz, P.E.

/kh

cc: Rick Semones, Presley Company of NM

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LA MERCED DE ATRISCO ZONE ATLAS/DRNG. FILE #: H9

LEGAL DESCRIPTION: TRACT A1 EL RANCHO ATRISCO UNIT 5

CITY ADDRESS: 98TH AT UNSER NW

ENGINEERING FIRM: ESPEY HUSTON & ASSOC CONTACT: D. LORENZ

ADDRESS: 317 COMMERCIAL NE PHONE: 242 1909

OWNER: PRESLEY CO NM CONTACT: R. SEMONES

ADDRESS: 1909 CARLISLE NE PHONE: 256-5811

ARCHITECT: NA CONTACT:

ADDRESS: NA PHONE:

SURVEYOR: ESPEY HUSTON CONTACT: T. ALDRICH

ADDRESS: SAME PHONE:

CONTRACTOR: NA CONTACT:

ADDRESS: NA PHONE:

PRE-DESIGN MEETING:

X YES

___ NO

X COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED
DEC 14 1987
HYDROLOGY SECTION

DRB NO. _____

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

X DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

X PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

X OTHER WORK ORDER (SPECIFY)

DATE SUBMITTED: 12-14-87

BY: D. LORENZ

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

December 9, 1987

Dennis Lorenz, P.E.
Espey, Huston & Associates, Inc.
317 Commercial Street, NE
Albuquerque, New Mexico 87102

RE: DRAINAGE REPORT FOR LA MERCED DE ATRISCO
(H-9/D1E) RECEIVED NOVEMBER 20, 1987

Dear Mr. Lorenz:

I have reviewed the referenced plan and forward the following comments:

1. Referencing our pre-design of September 3, 1987, we requested the following information, however, it was not included in the report:

   a. "More information needed on the permanency of the off-site diversion." The berms were originally constructed to protect Unser Boulevard. The berms will now be used to protect the subdivision. We should have information on its capacity and adequacy.

   b. "The drainage report must address channel stability requirements along the west property line." We need to review how the floodplain limits were determined and where the prudent line is established.

2. The El Rancho Atrisco Phase V Conceptual Drainage Plan by Easterling & Associates indicates a storm drain outfall instead of an asphalt channel to the Ladera System. Your site is a large runoff contributor to this storm drain system. Therefore, some type of financial responsibility rests with your development. We need at minimum a conceptual drawing indicating the required infrastructures needed for the final outfall system.

3. Please show pad elevations on the lots. We will use this information to determine retaining wall and lot ponding requirements.

4. 98th Street and Unser Boulevard are arterial streets. Please address the capacity of the streets using the arterial street requirements. Please address if the streets were designed for a fully developed condition.

5. I was unable to find "Exhibit II" as indicated on Page 7.

6. The depth of flow should be checked on the following streets.

   A. The curve for Francisco Navarro.
   B. The intersection of Don Fernando Duran and Francisco Navarro.
   C. The intersection of Pedro Cubero Place and Diego De Penalosa.

7. Please use the DPM charts to determine the capacity of the inlets.

8. Sheet 4 and 5 of the Developed Conditions indicate AP 13 has a 100 year at 74.7 cfs, however, AP 17 has a 100 year at 57.6 cfs. There seems to be an inconsistency.

9. If the asphalt channel is used prior to Work Order, we would need a public drainage easement and a drainage covenant for maintenance responsibility.

10. Please show more detail at the interface of the asphalt channel and the Ladera rundown.

11. Any work in the PNM easement would require an encroachment agreement from PNM.

12. How will Lots 58 - 68, 19 - 26 and 9 - 19 drain? Will a retaining wall be necessary?

13. The existing inlet at 98th Street and Atrisquenos Street appears too close to the street curve. Please address this situation.

Should you have any questions regarding my comments, please call me at 768-2650.

Cordially,

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

CAM/bsj

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LA MERCED DE ATRISCO ZONE ATLAS/DRNG. FILE #: H9

LEGAL DESCRIPTION: TRACT A1 EL RANCHO ATRISCO UNIT 5

CITY ADDRESS: 98TH AT UNSER NW

ENGINEERING FIRM: ESPEY HUSTON & ASSOC CONTACT: D. LORENZ

ADDRESS: 317 COMMERCIAL NE PHONE: 242 1909

OWNER: PRESLEY CO NM CONTACT: R. SIMMONS

ADDRESS: 1909 CARLISLE NE PHONE: 256-5811

ARCHITECT: NA CONTACT:

ADDRESS: NA PHONE:

SURVEYOR: ESPEY HUSTON CONTACT: T. ALDRICH

ADDRESS: SAME PHONE:

CONTRACTOR: NA CONTACT:

ADDRESS: NA PHONE:

PRE-DESIGN MEETING:

X YES

___ NO

X COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. _____

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

X DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

X HEC 2 RUN IN MIREHAVEN

RECEIVED
DEC 09 1987
HYDROLOGY SECTION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

X PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

X OTHER WORK ORDER (SPECIFY)

DATE SUBMITTED: 12-9-87

BY: D. LORENZ

DOCUMENT TRANSMITTAL

ESPEY, HUSTON & ASSOCIATES, INC.
317 Commercial St., N.E.
Albuquerque, New Mexico

To: D.R.B. Members Date 12/2/87 19

Project No. 10073

Project Name La Merced de Atrisco Subdivision

Gentlemen:

We are ☑ Forwarding ☐ Returning ☐ Herewith ☐ Under separate cover the following:

☐ Prints	☐ Samples	☑ Copies
☐ Estimates	☐ Specifications	☐
☐ Bulletin	☐ Tracings	☐
☐ Shop Drawings	☐ Sketches	☐

By _____ Mail By _____ Messenger

Please find enclosed copies of the Info. List for D.R.B. 87-603/S-87-60 scheduled for prel. plat on 12/8/87.

Also attached are copies of the signed NOR ESTE SECTOR DEVELOPMENT PLAN for your files.

Please call w/ any questions.

☐ For your information and comments
☐ As per your request
☐ For coordination purposes
☐ For your files
☐ For field use
☐ For your approval or correction
☐ Returned for correction

☐ Furnish with changes noted. Resubmission not required
☐ Furnish with changes noted. Resubmission required
☐ Furnish as submitted
☐ Revise and Resubmit
☐ Please give this matter your immediate attention

Remarks _____

If enclosures received are not as listed above, please notify us at once.

ESPEY, HUSTON & ASSOCIATES, INC.

By R. L. T.

Telephone: (505) 242-1909

Copies to:

RECEIVED
DEC 02 1987
HYDROLOGY SECTION

DRAINAGE INFORMA[redacted]T

NEW

PROJECT TITLE: LA MERCED DE ATRISCO ZONE ATLAS/DRNG. FILE #: H9 DIE

LEGAL DESCRIPTION: TRACT A1 EL RANCHO ATRISCO UNIT 5

CITY ADDRESS: 98TH AT UNSER NW

ENGINEERING FIRM: ESPEY HUSTON & ASSOC CONTACT: D. LORENZ

ADDRESS: 317 COMMERCIAL NE PHONE: 242 1909

OWNER: PRESLEY CO NM CONTACT: R. SIMMONS

ADDRESS: 1909 CARLISLE NE PHONE: 256-5811

ARCHITECT: NA CONTACT:

ADDRESS: NA PHONE:

SURVEYOR: ESPEY HUSTON CONTACT: T. ALDRICH

ADDRESS: SAME PHONE:

CONTRACTOR: NA CONTACT:

ADDRESS: NA PHONE:

PRE-DESIGN MEETING:

X YES

___ NO

X COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED
NOV 20 1987
HYDROLOGY SECTION

DRB NO. _____

EPC NO. _____

PROJ. NO. —

TYPE OF SUBMITTAL:

X DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

X PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

X OTHER WORK ORDER (SPECIFY)

DATE SUBMITTED: 11-20-87

BY: D. LORENZ