

DRAINAGE REPORT
TRACT A-6
SUMMARY PLAT OF TRACTS A-6, A-33, A-34 & N½, A-32
NORTHEAST UNIT
TOWN OF ATRISCO GRANT
LADERA SHOPPING CENTER

Prepared for
American Southwest Development Company Incorporated
Albuquerque, New Mexico

MARCH, 1980

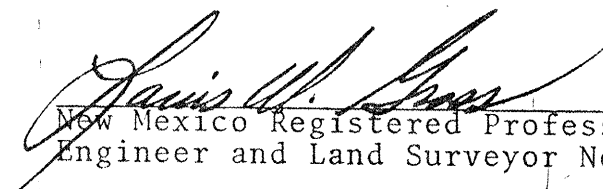
Prepared by
Fred Denney & Associates, Inc.
2400 Comanche Road, N.E.
Albuquerque, New Mexico 87107

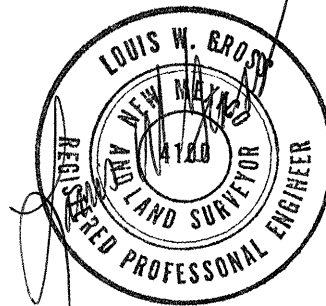
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MAR 24 1980

CITY ENGINEER

I, Louis W. Gross, hereby certify that the enclosed documents and drawings were prepared under my supervision and are true and correct to the best of my knowledge and belief.


New Mexico Registered Professional
Engineer and Land Surveyor No. 4100



Drainage Report
Tract A-6
Summary Plat of Tracts A-6, A-33, A-34 & N $\frac{1}{2}$, A-32
Northeast Unit
Town of Atrisco Grant
Ladera Shopping Center

I. GENERAL:

The 14.9925 acre tract involved in this study is located as shown on the Location Map (G-11). A copy of the summary plat for Tract A-6 is made a part of this report. A shopping center is planned for the site (see Site and Grading Plan).

No outside drainage enters the site at present. Also, no rain which falls on the site leaves the site. Due to the absence of a storm drainage system within a reasonable distance of the tract, all rainfall must be retained on the tract. In accordance with the policy of the City of Albuquerque, 2.2 inches of rain which is a 6-hour, 100-year rainfall was used to compute the volumes of the storage ponds. There are no outlets to drain the ponds. To conserve usable space for parking, some of the ponds will back up onto the parking lot during the 6-hour, 100-year event.

The soils in the area from the surface down to 2 to 4 $\frac{1}{2}$ feet are predominantly silty to slightly clayey fine sand (SM-SC). Below this layer is a layer of calcareous cemented silty to clayey sand from 1 $\frac{1}{2}$ feet to 4 feet thick.

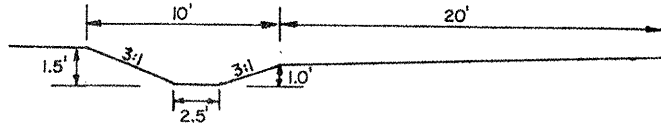
II. CALCULATIONS (Straight Volumetric)

D.A. No. 1

Area = 20,530 sf

Storage Volume Needed: $20,530 \times (2.2/12) = \underline{\underline{3,764 \text{ cf}}}$

Pond No. 1



$$A = (10 + 7/2)(0.5) + (7 + 2.5/2)(1.0) + (.5 \times 20/2) \\ = (4.25 + 4.75 + 5.0) = 14.0$$

$$L = 270'$$

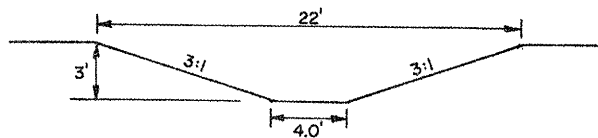
$$V = 14.0 \times 270 = \underline{\underline{3,780 \text{ cf}}} \quad \text{O.K.}$$

D.A. No. 2

Area = 205,700 sf

Storage Volume Needed = $205,700 \times (2.2/12) = \underline{\underline{37,712 \text{ cf}}}$

Pond No. 2A



$$A = (22 + 4/2) \times 3 = 39.0$$

$$L = 970'$$

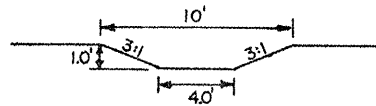
$$V = 39.0 \times 970' = \underline{\underline{37,830 \text{ cf}}} \quad \text{O.K.}$$

D.A. No. 3

Area = 3,600 sf

Storage Volume Needed = $3,600 \times (2.2/12) = \underline{\underline{660 \text{ cf}}}$

Pond No. 3



$$A = (10 + 4/2)(1) = 7$$

$$L = 94'$$

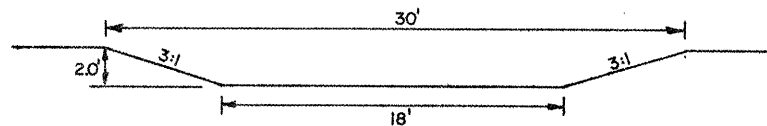
$$V = 7 \times 94' = \underline{\underline{658 \text{ cf}}} \quad \text{O.K.}$$

D.A. No. 4

$$\text{Area} = 33,500 \text{ sf}$$

$$\text{Storage Volume Needed} = 33,500 \times (2.2/12) = \underline{\underline{6,142 \text{ cf}}}$$

Pond No. 4



$$A = (30 + 18/2)(2) = 48$$

$$L = 128'$$

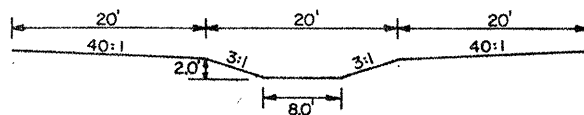
$$V = 48 \times 128' = \underline{\underline{6,144 \text{ cf}}} \quad \text{O.K.}$$

D.A. No. 5

$$\text{Area} = 185 \times 220 = 40,700 \text{ sf}$$

$$\text{Storage Volume Needed: } 40,700 \times (2.2/12) = \underline{\underline{7,462 \text{ cf}}}$$

Pond No. 5



$$\begin{aligned} A &= (20 + 8/2)(2) + (\frac{1}{2} \times .5 \times 20) + (\frac{1}{2} \times .5 \times 20) + (.5 \times 20) \\ &= 48 \text{ sf} \end{aligned}$$

$$L = 170'$$

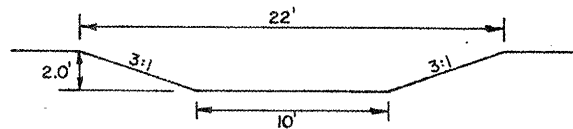
$$V = 48 \times 170' = \underline{8,160 \text{ cf}} \quad \text{O.K.}$$

D.A. No. 6

$$\text{Area} = 150 \times 180 = \underline{27,000 \text{ sf}}$$

$$\text{Storage Volume Needed} = 27,000 \times (2.2/12) = \underline{4,950 \text{ cf}}$$

Pond No. 6



$$A = (22 + 10/2)(2) = 32 \text{ sf}$$

$$L = 164'$$

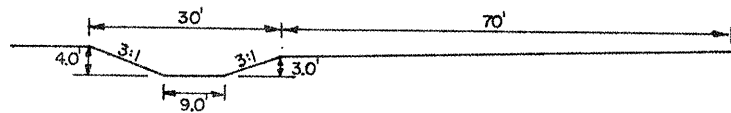
$$V = 32 \times 164' = \underline{5,248 \text{ cf}} \quad \text{O.K.}$$

D.A. No. 7

$$\text{Area} = 96,000 \text{ sf}$$

$$\text{Storage Volume Needed} = 96,000 \times (2.2/12) = \underline{17,600 \text{ cf}}$$

Pond No. 7A



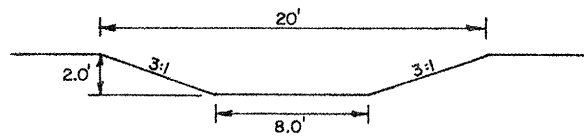
$$A = (30 + 27/2)(1) + (27 + 9/2)(3) + (\frac{1}{2} \times 1 \times 70)$$

$$= 117.5 \text{ cf}$$

$$L = 126'$$

$$V = 117.5 \times 126 = 14,805 \text{ cf}$$

Pond No. 7B



$$A = (20 + 8/2)(2) = 28 \text{ sf}$$

$$L = 108'$$

$$V = 28 \times 108' = \underline{\underline{3,024 \text{ cf}}}$$

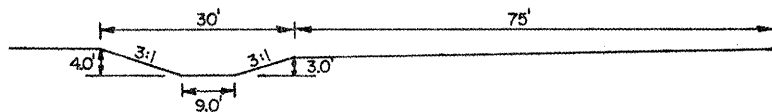
$$V_{7A} + V_{7B} = 14,805 + 3,024 = \underline{\underline{17,829 \text{ cf}}} \quad \text{O.K.}$$

D.A. No. 8

$$\text{Area} = 145,280 \text{ sf}$$

$$\text{Storage Volume Needed} = 145,280 \times (2.2/12) = \underline{\underline{26,635 \text{ cf}}}$$

Pond No. 8



$$A = (30 + 27/2)(1) + (\frac{1}{2} \times 1 \times 75) + (27 + 9/2)(3)$$

$$= 120 \text{ sf}$$

$$L = 222'$$

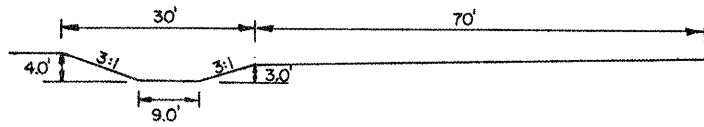
$$V = 120 \times 222' = \underline{\underline{26,640 \text{ cf}}} \quad \text{O.K.}$$

D.A. No. 9

$$\text{Area} = 81,500 \text{ sf}$$

$$\text{Storage Volume Needed} = 81,500 \times (2.2/12) = \underline{\underline{14,942 \text{ cf}}}$$

Pond No. 9



$$A = (30 + 27/2)(1) + (27 + 9/2)(3) + (\frac{1}{2} \times 1 \times 70) = 117.5$$

$$L = 130'$$

$$V = 117.5 \times 130' = \underline{15,275 \text{ cf}} \quad \text{O.K.}$$

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Ladera Shopping Center
Ladera 6 Theatre, Goodyear
Shop "J", Shop "K" ZONE ATLAS/DRNG.FILE #: G-11-038 ^{D3C}

LEGAL DESCRIPTION: Replat tr. M, N, and L of corrected summary plat of tracts L-N northeast
unit - Town of Atrisco Grant to TR. M-A, N-A, O, P, Q and R

CITY ADDRESS: 3301 Coors, N.W.

ENGINEERING FIRM: Chavez-Grieves

CONTACT: Mr. Vic Chavez

ADDRESS: 5420 Montgomery, N.E.

PHONE: 881-7376

OWNER: Ladera Development Assoc.

CONTACT: Mr. Stu Sherman

ADDRESS: 20 First Plaza, Suite 402

PHONE: 243-9511

ARCHITECT: de la Torre-Rainhart

CONTACT: Mr. George Rainhart

ADDRESS: 6121 Indian School Road, N.E.

PHONE: 881-0550

SURVEYOR: DMJM

CONTACT: _____

ADDRESS: 4055 Montgomery Blvd, N.E.

PHONE: 881-1803

CONTRACTOR: Wallin Construction Co.

CONTACT: Nick Wallin

ADDRESS: P. O. Box 13596

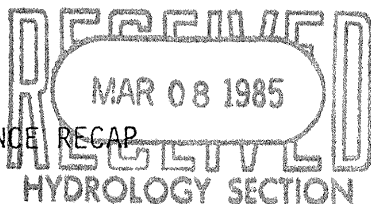
PHONE: 292-5500

PRE-DESIGN MEETING:

☒ YES

☐ NO

☐ COPY OF CONFERENCE RECAP
SHEET PROVIDED



DRB NO. 84-833

EPC NO. Z-79-78-1

PROJ. NO. _____

TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT

☒ DRAINAGE PLAN

☐ CONCEPTUAL GRADING & DRAINAGE PLAN

☐ GRADING PLAN

☐ EROSION CONTROL PLAN

☐ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL

☐ PRELIMINARY PLAT APPROVAL

☐ SITE DEVELOPMENT PLAN APPROVAL

☐ FINAL PLAT APPROVAL

☒ BUILDING PERMIT APPROVAL

☐ FOUNDATION PERMIT APPROVAL

☐ CERTIFICATE OF OCCUPANCY APPROVAL

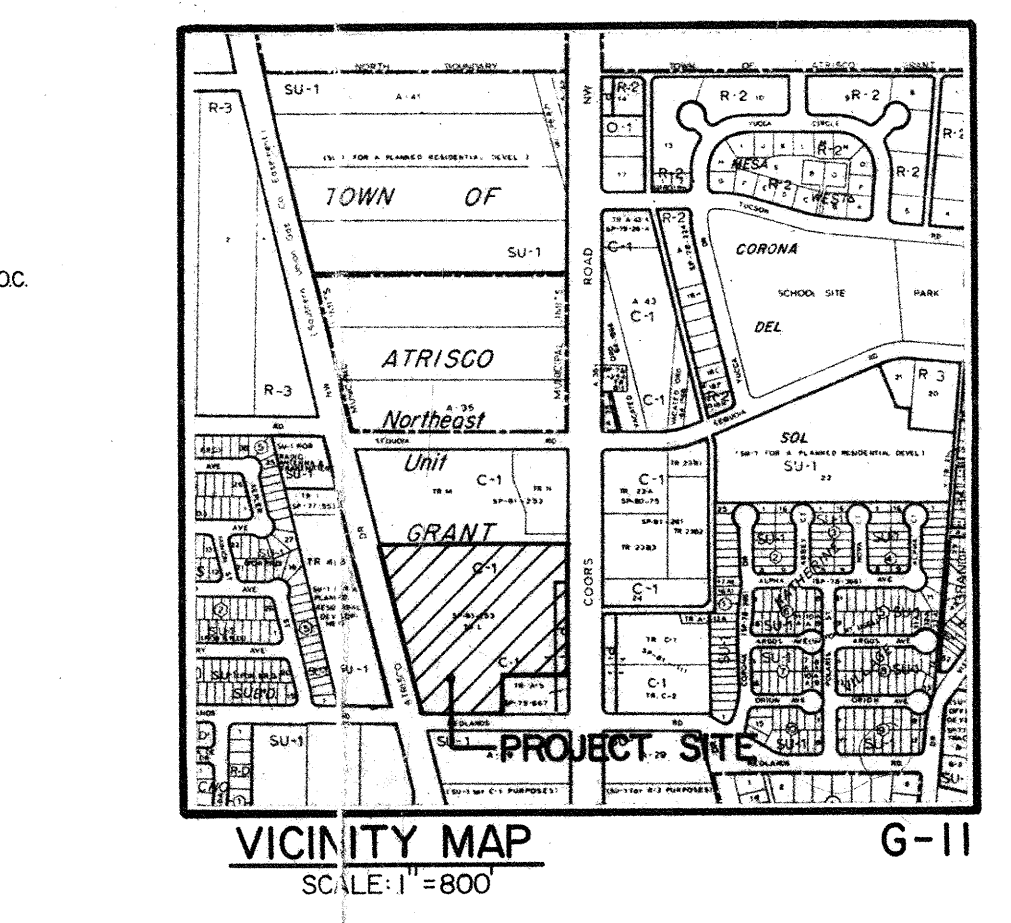
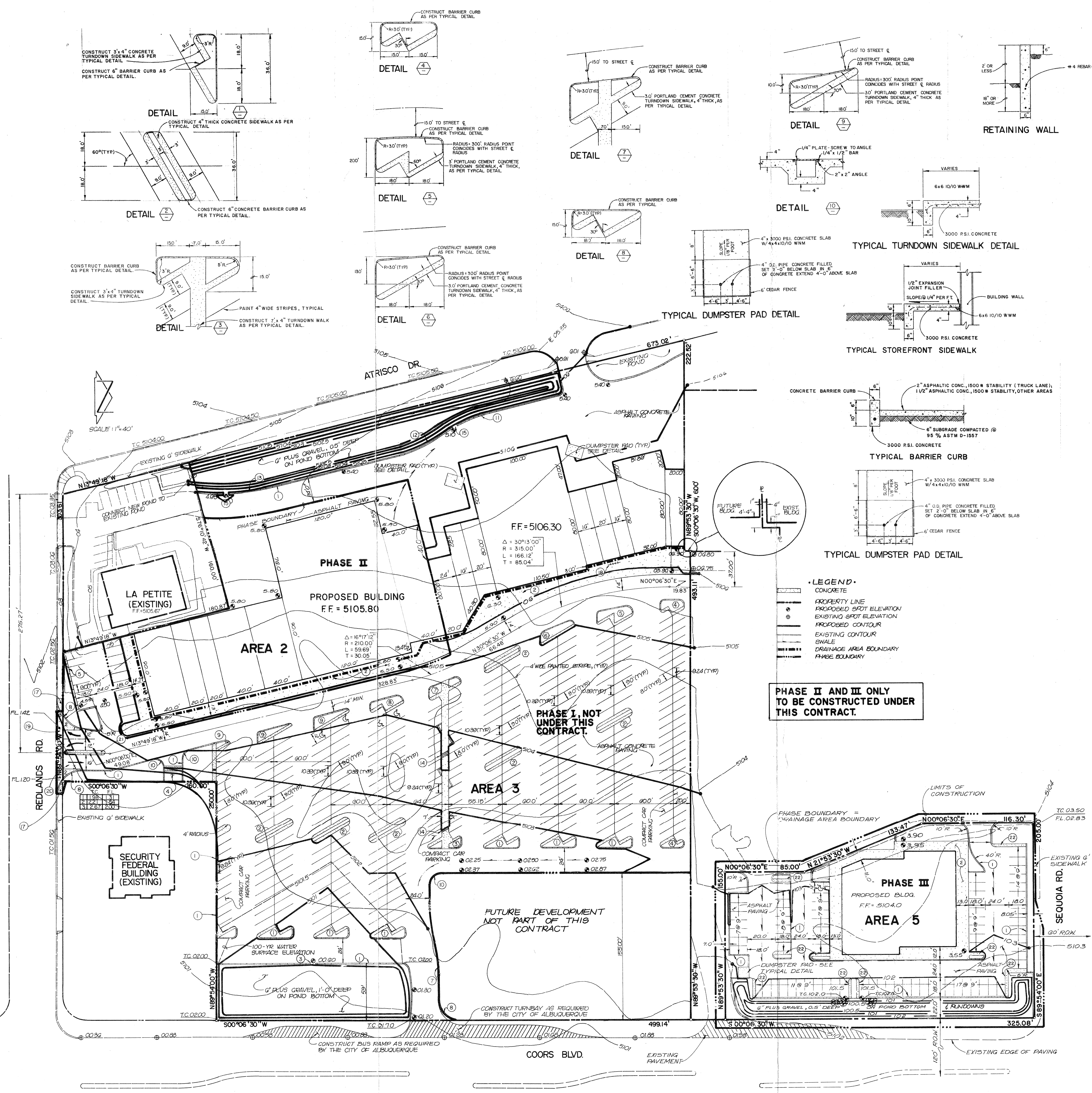
☐ ROUGH GRADING PERMIT APPROVAL

☐ GRADING/PAVING PERMIT APPROVAL

☐ OTHER _____ (SPECIFY)

¹⁸
DATED: February 18, 1985

Victor J. Chavez



DRAINAGE PLAN

Proposed development is based upon the approved drainage report prepared by Fred Denny and Associates, Inc., for American Southwest Development Co., Inc. One hundred percent of the 100-year, 6-hour runoff in the fully developed condition will be ponded. The existing soil is Hydrologic Soil Group B, as classified by the S.W. Conservation Service. Supporting calculations are shown below.

Rational Method

1. DISCHARGE: $Q = C I A$

From DPM Plate 22.2C-1,
C = rational coefficient (function of % impervious)
 $i = P_g (6.84)^{-0.51} = 4.65 \text{ in/hr. (100-yr., 6-hr.)}$

where $P_g = 2.2' \text{ (DPM Plate 22.2D-1)}$
 $T_p = \text{time of concentration} = 0.0078 L^{0.775} S^{-0.385}$
L = hydraulic length, ft.
S = slope, ft./ft.

A = basin area
2. VOLUME: $V = C P A (T_p)$

where C, P_g , A are same as above

DRAINAGE AREA 2

1. EXISTING CONDITION
A = 149,450 s.f.
 $T_p = 10 \text{ minutes (minimum)}$
 $i = 4.65 \text{ in./hr.}$
 $C_{0.2} = 0.34$
 $Q = 5.4 \text{ c.f.s.}$
 $V = 9,300 \text{ c.f.}$

2. DEVELOPED CONDITION
A = 149,450 s.f.
 $T_p = 10 \text{ minutes (minimum)}$
 $i = 4.65 \text{ in./hr.}$
 $C_{0.2} = 0.86$
 $Q = 13.7 \text{ c.f.s.}$
 $V = 23,560 \text{ c.f.}$

Fond Volume:
Area elev. 104.0 = 16,820 s.f. Volume = 16,090 c.f.
Area elev. 103.0 = 15,360 s.f. Volume = 7,530 c.f.
Area elev. 102.5 = 14,760 s.f. Volume = 7,530 c.f.
Volume in rock bed = $\frac{1}{3} (14,760) (0.5) = 2,460 \text{ c.f.}$
where $\frac{1}{3}$ = fraction of voids in rock
Total available ponding volume = 26,080 c.f.
 $V_{\text{required}} = V_{100, \text{ developed}} = 23,560 \text{ c.f.}$

DRAINAGE AREA 3

1. EXISTING CONDITION
A = 186,110 s.f.
 $T_p = 10 \text{ minutes (minimum)}$
 $i = 4.65 \text{ in/hr.}$
 $C_{0.2} = 0.34$
 $Q = 6.7 \text{ c.f.s.}$
 $V = 11,600 \text{ c.f.}$

2. DEVELOPED CONDITION
A = 186,110 s.f.
 $T_p = 10 \text{ minutes (minimum)}$
 $i = 4.65 \text{ in./hr.}$
 $C_{0.2} = 0.86$
 $Q = 17.1 \text{ c.f.s.}$
 $V = 29,340 \text{ c.f.}$

Fond Volume:
Area elev. 101.5 = 25,970 s.f. Volume = 11,750 c.f.
Area elev. 101.0 = 21,020 s.f. Volume = 15,110 c.f.
Area elev. 100.0 = 9,200 s.f. Volume = 8,260 c.f.
Volume in rock bed = $\frac{1}{3} (9,200) (1) = 3,067$
where $\frac{1}{3}$ = fraction of voids in rock
Total available ponding volume = 29,923 c.f.
 $V_{\text{required}} = V_{100, \text{ developed}} = 29,340 \text{ c.f.}$

NOTES:

1. Grades have been coordinated with street grades and improvements within street R.O.W. (part of City Project #1584 - assumed to be existing).

2. Grades have also been coordinated with approved grading and drainage plans for La Petite and Safeway, currently under construction.

PROJECT BENCHMARK:
N.M.S.H.D. brass cap marked "NM448-N3" located on the west edge of paving of the West Mesa Bowling Alley parking lot located on the east side of Coors Road. Elevation = 5099.53 feet (MSLD).

- KEYED NOTES**
1. CONSTRUCT CONCRETE BARRIER CURB AS PER TYPICAL DETAIL.
 2. 6" STOREFRONT SIDEWALK. SEE TYPICAL DETAIL. SEE ARCHITECTURAL NOTES FOR JOINT LAYOUT AND PLANTER DETAILS.
 3. CONSTRUCT 5' 0" CURB OPENING.
 4. CONSTRUCT 2' WIDE CONCRETE ALLEY GUTTER AS PER CITY OF ALBUQ. STD. DWG. P-8-3.
 5. CONSTRUCT RETAINING WALL. SEE TYPICAL DETAIL.
 6. 400' RADIUS.
 7. 428' RADIUS.
 8. 25' RADIUS.
 9. 3' RADIUS.
 10. 10' RADIUS.
 11. 180' RADIUS.
 12. 110' RADIUS.
 13. 160' RADIUS.
 14. SIDEWALK GUTTER BOX. SEE DETAIL 10.
 15. CONSTRUCT 5' 0" CURB OPENING.
 16. RAMP SIDEWALK TO MATCH EXISTING OVER A DISTANCE OF 15'.
 17. RAMP SIDEWALK.
 18. BIKE RACK FOR 10 BIKES. LOCATION TO BE COORDINATED WITH ARCHITECT.
 19. P.C.C. VALLEY GUTTER AS PER CITY OF ALBUQ. STD. DWG. P-9-2.
 20. PAINTED ARROWS AND LANE STRIPING DIRECTLY ON PAVING.
 21. 40' x 4' x 4" P.C.C. MEDIAN.
 22. 3'x4" TURNDOWN SIDEWALK - SEE TYPICAL DETAIL.

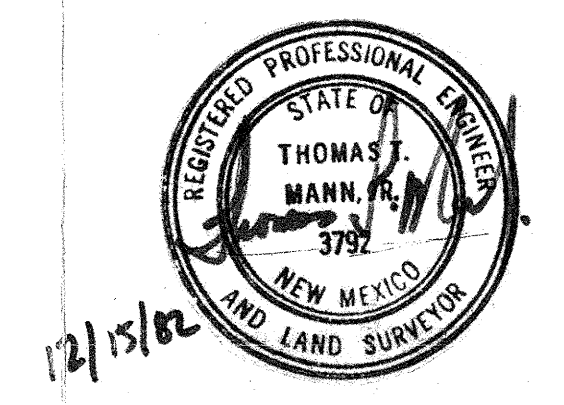
- GENERAL NOTES**
1. ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF ALBUQUERQUE "CONTRACT DOCUMENTS FOR CITY-WIDE UTILITIES AND CASH PAVING NO. 31."
 2. THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES BY CALLING 765-1234 48 HOURS BEFORE COMMENCING WORK IN AREAS NEAR UNDERGROUND UTILITY LINES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND MAINTAIN IN SERVICE ALL EXISTING UTILITIES. THE ENGINEER SHALL BE PROMPTLY NOTIFIED OF ANY PROBLEMS OR CONFLICTS THAT ARE ENCOUNTERED.
 3. ALL CONCRETE SHALL BE 3000 PSI CONCRETE WITH 3/4" AGGREGATE.
 4. ALL ASPHALT CONCRETE SHALL BE 1 1/2" EXCEPT WHERE NOTED.

DRAINAGE AREA 5

1. EXISTING CONDITION
A = 59,300 sf = 1.36 Ac
 $T_p = 10 \text{ minutes (minimum)}$
 $i = 4.65 \text{ in/hr.}$
 $C_{0.2} = 0.34$
 $Q = 2.2 \text{ cfs}$
 $V = 3695 \text{ cf}$

2. DEVELOPED CONDITION
A = 59,300 sf = 1.36 Ac
 $T_p = 10 \text{ minutes (minimum)}$
 $i = 4.65 \text{ in/hr.}$
 $C_{0.2} = 0.76$
 $Q = 4.8 \text{ cfs}$
 $V = 8260 \text{ cf}$

Fond Volume:
Area elev. 102 = 10,725 sf Volume = 7170 cf
Area elev. 101 = 3620 sf Volume = 1690 cf
Area elev. 100.5 = 3150 sf Volume = 8860 cf



REPLAT
TRACTS M, N & L OF
CORRECTED SUMMARY PLAT OF
TRACTS L, M AND N, NORTHEAST UNIT
TOWN OF ATRISCO GRANT
TO
TRACTS M-A, N-A, O, P, Q & R

APRIL, 1984
DESCRIPTION

The foregoing replat of that certain tract of land situate within the Town of Atrisco Grant, City of Albuquerque, County of Bernalillo, New Mexico, located within Section 2, Township 10 North Range 2 East, N.M.P.M., being and comprising all of Tract L, M and N; as the same is shown and designated on the CORRECTED SUMMARY PLAT OF TRACTS L, M AND N, NORTHEAST UNIT, TOWN OF ATRISCO GRANT, filed in the Office of the County Clerk of Bernalillo County, New Mexico on August 25, 1983 in Volume: C-22; Folio: 2.

STATEMENT and AFFIDAVIT of OWNER

To the extent that storm drainage waters are not contained within the boundaries of the Six Tracts depicted on this Plat, the Owner(s) hereby grant reciprocal easements in and among the Six Tracts depicted for purposes of storm drainage in a manner substantially in accordance with the Final Drainage Plan as shall be submitted to the City of Albuquerque by Owner(s). Owner(s), its Successors and Assigns, further agree to maintain the existing drainage ponds previously approved by the City of said Tracts, including the drainage ponds on Tract R.

LADERA DEVELOPMENT ASSOCIATES

by: AMERICAN SOUTHWEST DEVELOPMENT COMPANY

BY: Stuart C. Sherman, VICE PRESIDENT

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss

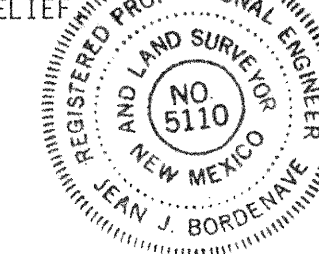
The foregoing instrument was acknowledged before me this 19th day of April, 1984, by Stuart C. Sherman.

Notary Public Rene Catanach
My Commission Expires 10/20/86

APPROVALS

PLANNING DIRECTOR, CITY OF ALBUQUERQUE, NEW MEXICO	DATE
<u>John E. Fitzmaurice</u>	<u>6/19/84</u>
WATER RESOURCE, CITY OF ALBUQUERQUE, NEW MEXICO	DATE
<u>396</u>	<u>6/28/84</u>
FOR EXECUTIVE ENGINEER, AMAFCA	DATE
<u>396</u>	<u>6/28/84</u>
CITY ENGINEER, CITY OF ALBUQUERQUE, NEW MEXICO	DATE
<u>Philip J. Jarama</u>	<u>6-19-84</u>
TRAFFIC ENGINEER, CITY OF ALBUQUERQUE, NEW MEXICO	DATE
<u>Walter C. Kelly</u>	<u>6-19-84</u>
DIRECTOR OF PARKS AND RECREATION, CITY OF ALBUQUERQUE, NM	DATE
<u>Bruce J. Jarama</u>	<u>6/28/84</u>
PROPERTY MANAGEMENT, CITY OF ALBUQUERQUE, NEW MEXICO	DATE
<u>Walter C. Kelly</u>	<u>06/19/84</u>
CHIEF CITY SURVEYOR, CITY OF ALBUQUERQUE, NEW MEXICO	DATE

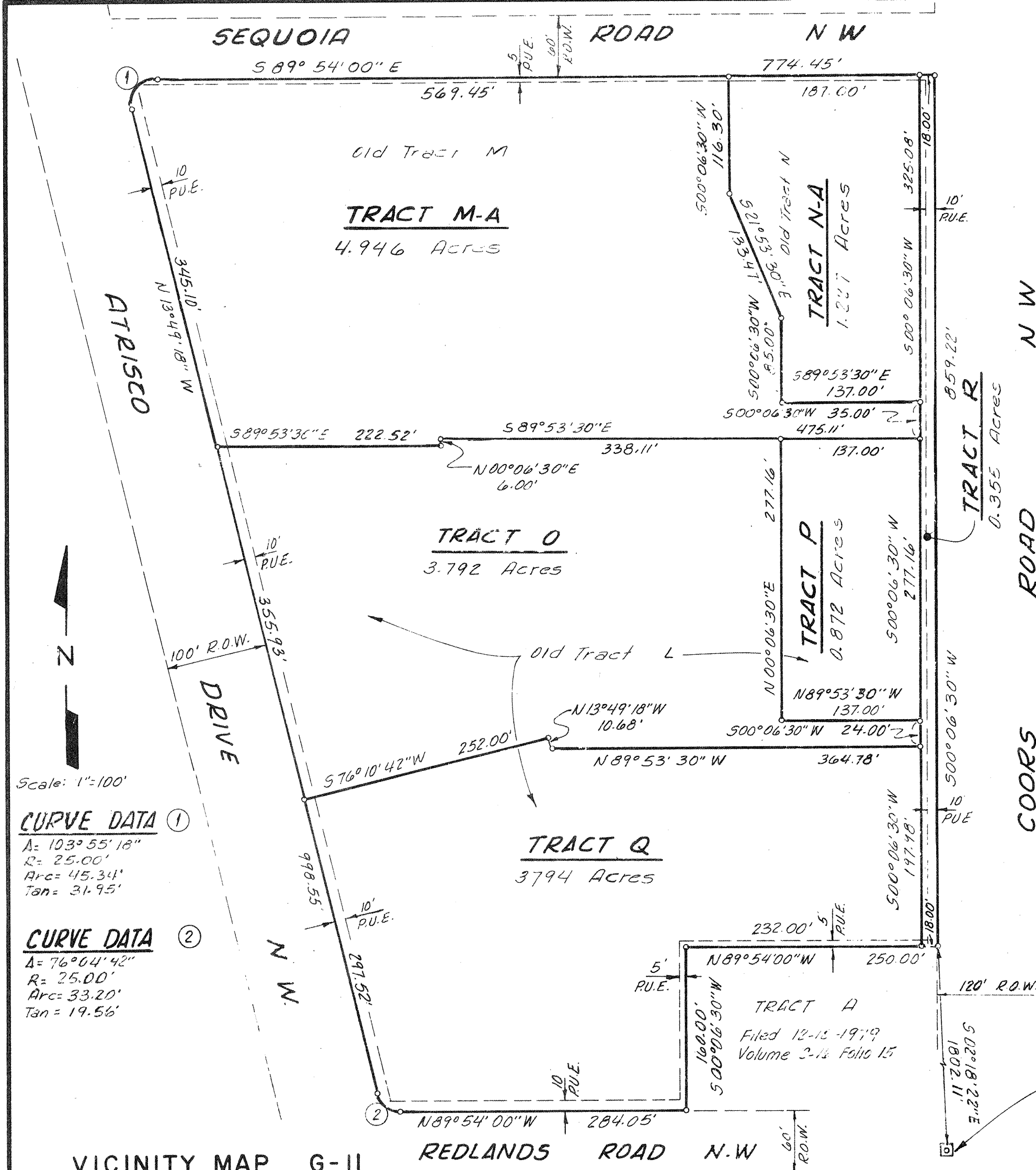
I, UNDER THE LAWS OF THE STATE OF NEW MEXICO CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR AND THAT THIS PLAT WAS PREPARED BY ME OR UNDER MY SUPERVISION AND MEETS THE MINIMUM REQUIREMENTS FOR MONUMENTS AND SURVEYS OF THE ALBUQUERQUE SUBDIVISION ORDINANCE AND ALL EASEMENTS OF RECORD ARE SHOWN AND THAT THE PLAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



Jean J. Bordenave
J. J. BORDENAVE, N.M.P.E. & L.S. #5110

PRINTED
JUN 28 1984

Engineers File No 04639-01-03



TRACTS are subject to Easements with Covenants and Restrictions affecting Land (ECR) as recorded in the Office of the County Clerk of Bernalillo County, New Mexico in Misc. Book 875, Pages 831 thru 853 inclusive and amendments as shown is Misc. Book 50-A, Pages 825 thru 828 inclusive filed September 27, 1983; and Misc. Book 56-A, Pages 22 thru 32 inclusive, filed October 14, 1983.

PURPOSE OF REPLAT

To Subdivide Tracts L, M & N into Six (6) Tracts.

Notes:

- Bearings are based on CORRECTED SUMMARY PLAT OF TRACTS L, M, AND N, NORTHEAST UNIT, TOWN OF ATRISCO GRANT, filed August 25, 1983 in Volume: C-22; Folio: 2.
- Distances are ground distances.
- No field Survey was made.

NM 54C / ACS "NM 448-N3, 1969
NMSP (Central Zone)
X: 365,125.22 Y: 1,497,002.42
Grid to Grid: 0.99967849
ΔC: 00° 15' 34"
Rotate Plat Brgs to NMSP(C) Grid
+00° 10' 10"

