DRAINAGE INFORMATION SHEET

L-7/D2

APPLICANT'S NAME: LifeTalk Radio ZONE ATLAS/DRNG. FILE #: ~~L-7~~ 12

DRB #: n/a EPC #: n/a WORK ORDER #: n/a

LEGAL DESCRIPTION: Portion of Lot No. 41, Unit A, Second Row North West of Westland

CITY ADDRESS: 12200 Volcano Road, N.W.

ENGINEERING FIRM: Western Development Engineering, Inc. CONTACT: Ellery Biathrow

ADDRESS: 5015 Prospect Avenue, N.E. PHONE: 830-0262

OWNER: LifeTalk Broadcastng Assn. CONTACT: ..... Loren Olson

ADDRESS: 402 E. Yakima Ave., Suite 1320 PHONE: 509-248-8255
Yakima, Washington, 98901

ARCHITECT: n/a CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: n/a CONTACT: ..... _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: n/a CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:
- X DRAINAGE REPORT
- X DRAINAGE PLAN
- ____ CONCEPTUAL GRADING & DRAINAGE PLAN
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERTIFICATION
- ____ OTHER _____

PRE-DESIGN MEETING:
- ____ YES
- X 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
- X DRAINAGE REQUIREMENTS
- ____ SUBDIVISION CERTIFICATION
- ____ OTHER _

DATE SUBMITTED: December 22, 1998

BY: Ellery Biathrow VIA Bernalillo County Public Works Dept.

RECEIVED
DEC 29 1998
HYDROLOGY SECTION

County of Bernalillo

State of New Mexico

2400 BROADWAY, S.E.
ALBUQUERQUE, NEW MEXICO 87102
PUBLIC WORKS (505) 848-1500

February 25, 1999

Ellery Biathrow, P.E.
Western Development Engineering. Inc.
5015 Prospect Ave. NE
Albuquerque, New Mexico

RE: Grading Plan for Life Talk Radio (L7/D2) (PWDN-23) Submitted for Grading Permit Approval, Engineer's Stamp Dated 1/28/99.

Dear Mr. Biathrow:

Based on the information provided, and the acceptance of the AMAFCA easement, the above referenced plan is approved for Grading Permit release.

If you have any questions, please call me at 924-3982, or contact Brad Catanach at the County.

Sincerely,

Susan Calongne

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: Lisa Ann Manwill, P.E., Albuquerque Metropolitan Arroyo Flood Control Authority
Brad Catanach, P.E., Bernalillo County Public Works Division
File

NON-EXCLUSIVE ACCESS EASEMENT

An Easement created this 30th day of March, 1996 by Westland Development Co., Inc. (Westland), a corporation duly organized under the laws of the State of New Mexico, with its principal place of business located at 401 Coors Boulevard NW, in Albuquerque, Bernalillo County, New Mexico; wherein Grantor desires to quitclaim a non-exclusive right of ingress and egress for the benefit of that portion of Lot 41, Second Row North, Unit A, Town of Atrisco Grant which is located on the south side of the Interstate 40 right-of-way and which abuts the easement hereby created. Said Lot being more specifically described in, "EXHIBIT A", attached hereto.

RECITALS

WHEREAS, Westland is the owner in fee title to that portion of Lot 41, Second Row North, Unit A, Town of Atrisco Grant which is located on the south side of the Interstate 40 right-of-way; and intends to convey said title to LifeTalk Broadcasting Association upon even date herewith, for good and valuable consideration...and

WHEREAS, Westland wishes to quitclaim an easement to the extent it may have an interest in certain undedicated, "PROPOSED ROADS", as are shown on the historic survey plat maps of the Town of Atrisco Grant, Unit A, and which were intended to provide access to the adjacent platted lots, including those portions of Lot 41 described in, "EXHIBIT A", ...and

WHEREAS, Westland desires to quitclaim a non-exclusive right-of-way access in favor of that portion of Lot 41 described in, "EXHIBIT A", to the extent it has the right to grant said access; to be from the Central Avenue public right-of-way and contained within certain above mentioned, undedicated, "PROPOSED ROADS", as specifically described by metes and bounds;

NOW THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration, the receipt of which is hereby acknowledged, Westland Development Co., Inc. hereby quitclaims, subject to the qualifications and conditions stated below, a permanent, non-exclusive easement for ingress and egress for a portion of an undedicated, proposed road which is more specifically described in "EXHIBIT B", attached hereto, in favor of that portion of Lot 41 described more fully in "EXHIBIT A", attached hereto.

Westland Development Co., Inc. makes no representations of any kind as to the strength or validity of its title to the easement property. Therefore said quitclaim of easement is made only to the extent that Westland Development Co., Inc. may have any ownership right in the easement property, and is granted by quitclaim and "AS IS", without warranty covenants or guarantees of any kind and subject to any other claims for use as a public or private roadway.

Westland Development Co., Inc. shall have no responsibility for, nor obligation to improve, maintain or repair the easement property, either now or in the future.

Said quitclaim for easement shall run with the land; it shall in no way hinder or exclude the access right of other adjacent property owners or the general public, and it shall be binding upon and inure to the benefit of the party owning the lot described in "EXHIBIT A, its successors and assigns.

IN WITNESS WHEREOF, the parties have executed this easement as of the date first above stated.

Westland Development Co., Inc.

By: Barbara Page
Barbara Page, President & CEO

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on Feb. 5, 1996 by BARBARA PAGE, the President and CEO of Westland Development Co., Inc., a New Mexico corporation, on behalf of said corporation.

Linda J. Blair

OFFICIAL SEAL
LINDA J. BLAIR
NOTARY PUBLIC STATE OF NEW MEXICO
My Commission Expires 8/5/97

"EXHIBIT A"

LEGAL DESCRIPTION FOR A PORTION OF LOT 41

A TRACT OF LAND SITUATE WITHIN THE TOWN OF ATRISCO GRANT WITHIN PROJECTED SECTIONS 30, TOWNSHIP 10 NORTH, RANGE 2 EAST, N.M.P.M., WITHIN BERNALILLO COUNTY, NEW MEXICO; BEING A PORTION OF TRACT 41, SECOND ROW NORTH, UNIT A, WEST OF WESTLAND AS THE SAME IS SHOWN AND DESIGNATED ON AN UNFILED MAP ENTITLED "TOWN OF ATRISCO GRANT, A CORPORATION" DATED JULY 1961 AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID TRACT LYING ON THE SOUTH RIGHT OF WAY LINE OF INTERSTATE 40, MARKED BY A SET REBAR WITH CAP "PS 11993" FROM WHENCE A TIE TO N.M.S.H.C. MONUMENT "1-40-26" BEARS N 58 45'13" E, A DISTANCE OF 329.86 FEET;

THENCE FROM SAID BEGINNING POINT S 14 55'41" E ALONG THE WEST LINE OF A PROPOSED ROAD, A DISTANCE OF 304.89 FEET TO THE SOUTHEAST CORNER OF SAID TRACT LYING ON THE INTERSECTION OF SAID PROPOSED ROAD AND THE NORTH LINE OF A EAST/WEST PROPOSED ROAD MARKED BY A SET REBAR WITH CAP "PS 11993";

THENCE S 75 01'59" W ALONG SAID LINE, A DISTANCE OF 210.00 FEET TO THE SOUTHWEST CORNER OF SAID TRACT MARKED BY A FOUND REBAR WITH CAP "LS 7719";

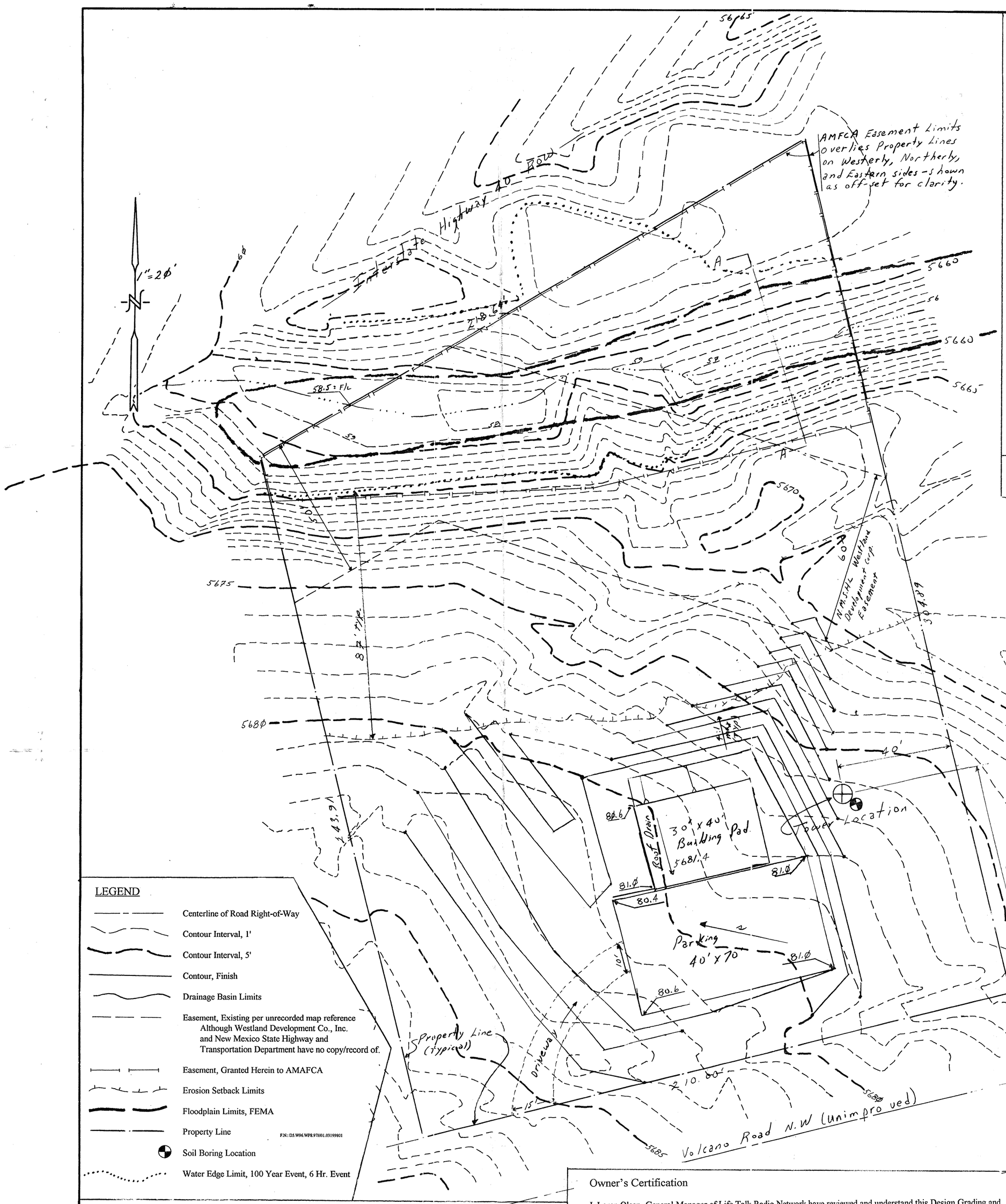
THENCE LEAVING SAID LINE N 14 54'30" W, A DISTANCE OF 243.91 FEET TO THE NORTHWEST CORNER OF SAID TRACT LYING ON SAID INTERSTATE 40 RIGHT OF WAY LINE MARKED BY A FOUND REBAR WITH CAP "LS 7719";

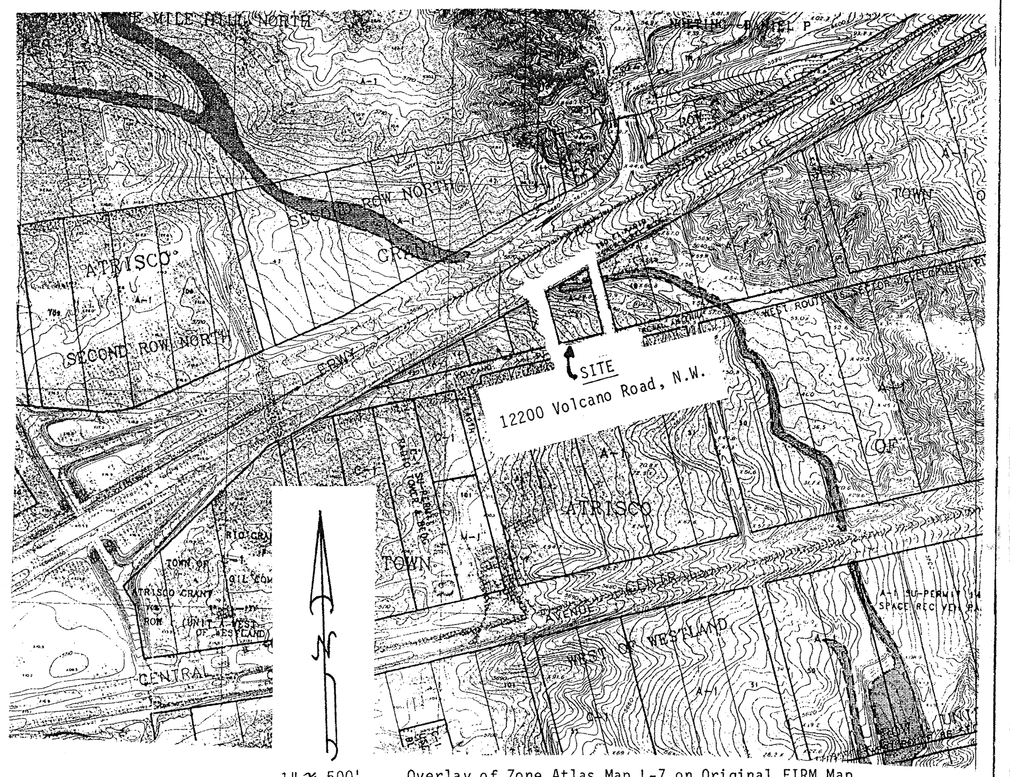
THENCE N 58 50'10" E, A DISTANCE OF 218.64 FEET TO THE POINT OF BEGINNING CONTAINING 1.323 ACRES MORE OR LESS.

EXHIBIT "B"

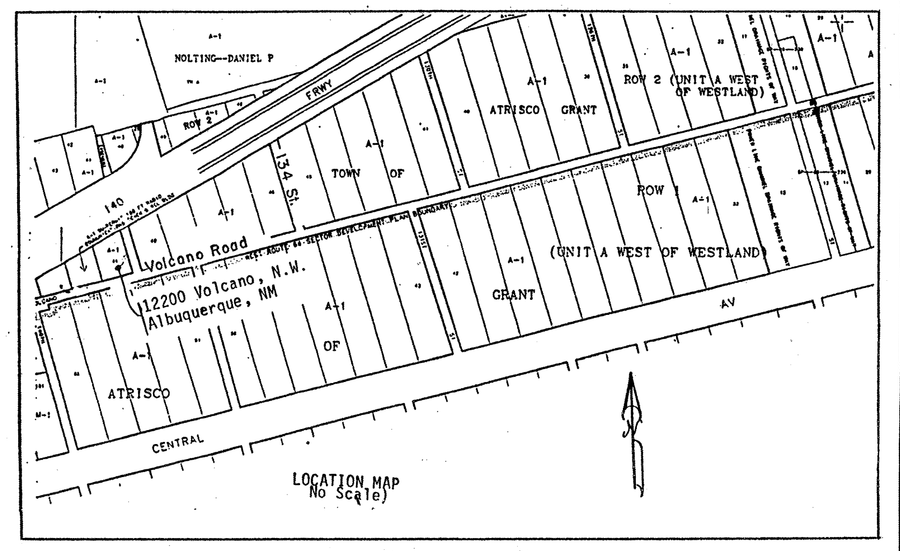
EASEMENT DESCRIPTION

An easement situate within the Town of Atrisco Grant within projected Section 25, Township 10 North, Range 1 East and projected Section 30, Township 10 North, Range 2 East, New Mexico Principal Meridian within Bernalillo County, New Mexico being the proposed road located along the south property lines of Tract 43, 42, and 41, Row 2, Unit A, West of Westland, as the same is shown and designated on an unfiled map entitled "TOWN OF ATRISCO GRANT, A CORPORATION" dated July 1961.

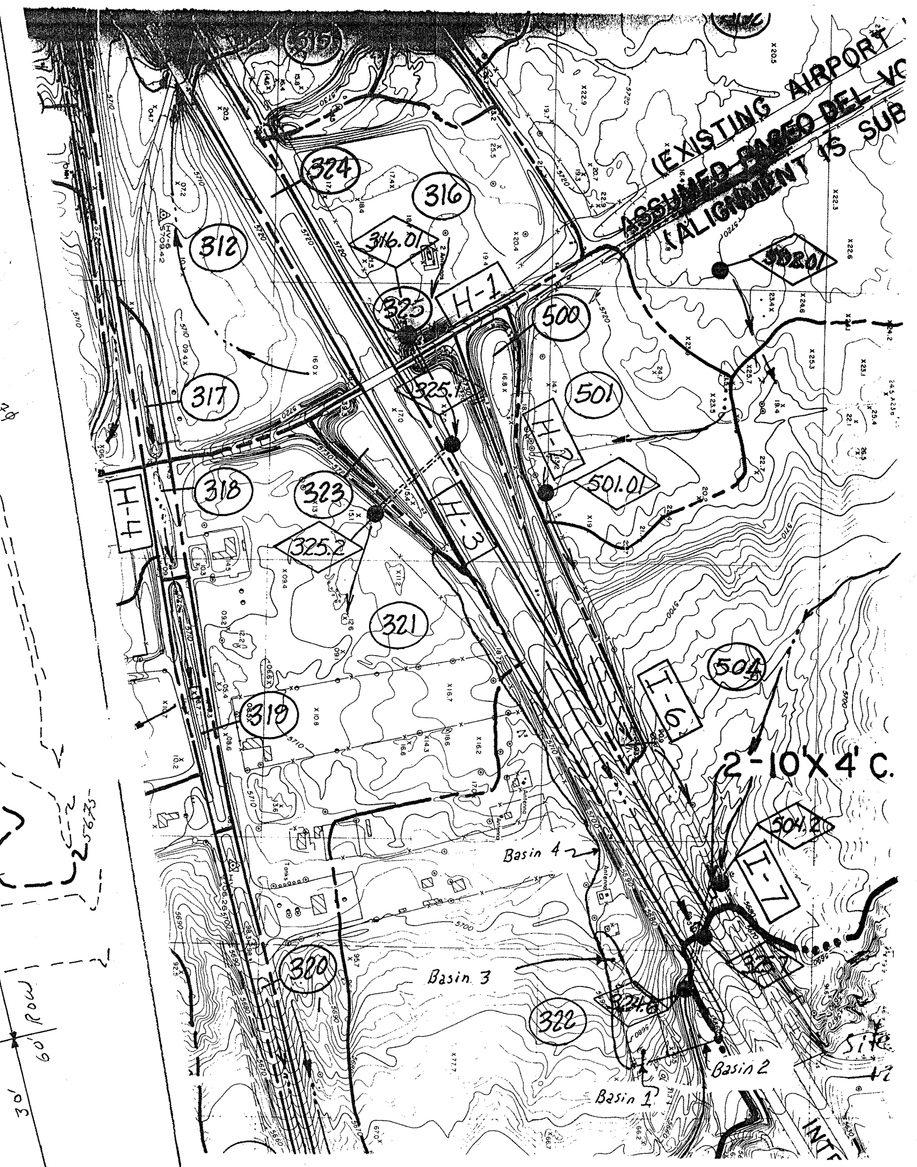


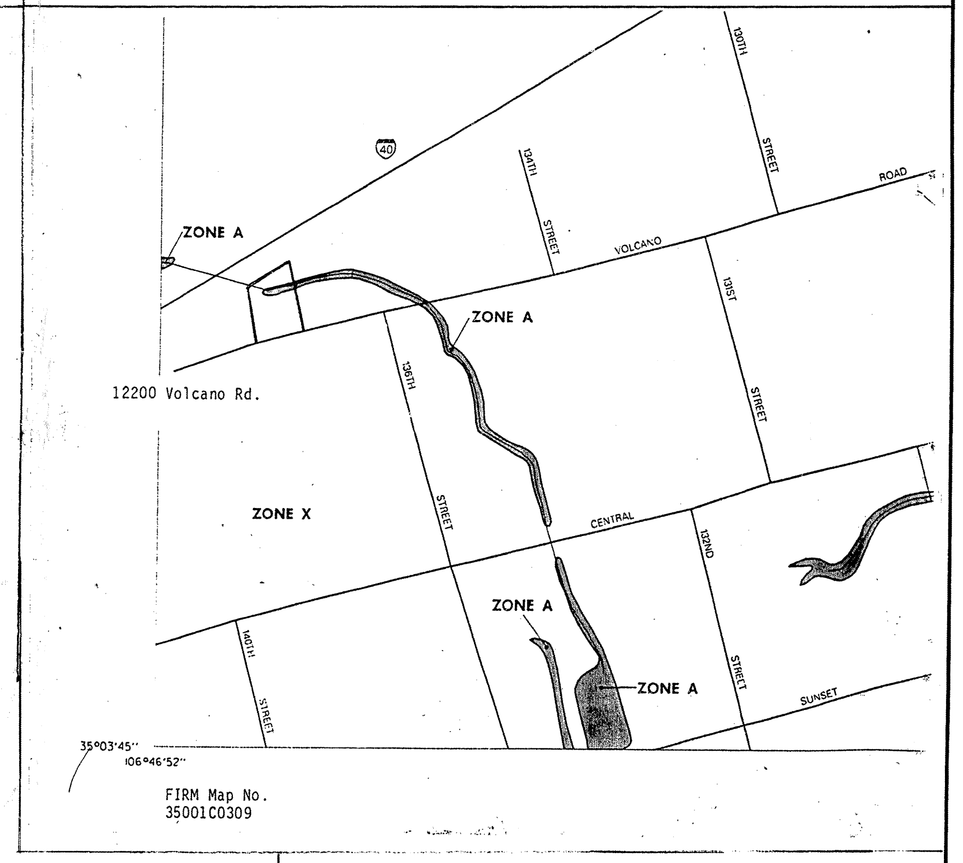


1" ≈ 500' Overlay of Zone Atlas Map L-7 on Original FIRM Map with Topography.



LOCATION MAP (No Scale)





FIRM Map No. 35001C0309

Engineer's Certification

I, Ellery A. Biathrow, Jr., New Mexico Registered Engineer No. 12070 hereby certify that I have personally observed the property shown hereon, obtained the topography through the firm of Precision Surveys, and that it appears that no grading (filling or excavation) other than through the hereon defined Drainage Easement for construction of the Interstate has occurred hereon.

Ellery A. Biathrow Jr. 11-28-99

Ellery A. Biathrow, Jr., P.E. - NMPE No. 12070

Owner's Certification

I, Loren Olsen, General Manager of Life Talk Radio Network have reviewed and understand this Design Grading and Drainage Plan. I accept this information and agree to construct the improvements as defined hereon subject to setback requirements, if different than shown hereon. Any minor deviations from this plan that may be necessary are also accepted without the right to review; however, any material deviations from this plan, for whatever reason, shall be provided for my review and approval.

LIFE TALK RADIO NETWORK

Loren Olsen 3/20/98

Loren Olsen, General Manager

DRAINAGE MANAGEMENT PLAN

LIFETALK BROADCASTING ASSOCIATION

12000 VOLCANO ROAD, N.W.
UPC 1-007-056-090-380-212-05

Portion of Tract 41
Town of Atrisco Grant
Second Row North, Unit A
as shown on "Plat of Survey"
Recorded in the Bernalillo County Clerk's
Office as Instrument No. 96056753

WESTERN DEVELOPMENT ENGINEERING, INC.

5015 Prospect Avenue, N.E.
Albuquerque, New Mexico 87110

505-830-0262 (V)
505-830-0209 (F)

TABLE 8
DRAINAGE STRUCTURE INVENTORY

I.D.	SIZE	NUMBER	MATERIAL	CAPACITY	COMMENTS
I-1	24"	3	RCP	84 cfs	
I-2	24"	2	RCP	46 cfs	
I-3	24"	1	RCP	22 cfs	
I-4	18"	1	CMP	7 cfs	
I-5	48"	3	RCP	435 cfs	West Amole crossing (same as X-3)
I-6	30"	1	CMP	35 cfs	
I-7	10'x4'	2	CBC	700 cfs	East Amole crossing
X-1	24"	1	RCP	30 cfs	
X-2	24"	1	CMP	13 cfs	From catch basin
X-3	48"	3	RCP	435, 504, 555 cfs	West Amole crossing of north frontage road, on-ramp, south frontage road.
C-1	8'x4'	1	CBC	365 cfs	East Amole crossing
C-2	15' Bottom 2:1ss	350 LF	Channel		East Amole, concrete lined channel
H-1	30"	1	RCP	30 cfs	At interchange
H-2	24"	1	CMP	13 cfs	
H-3	24"	1	CMP	13 cfs	
H-4	18"	1	CMP	17 cfs	
T-1	36"	3	CMP	34 cfs	
T-2	30"	1	CMP	16 cfs	
T-3	30"	1	CMP	16 cfs	
T-4	18"	1	CMP	7 cfs	

I - Interstate 40 crossing structures.
X - Central/I-40 Interchange structures.
C - Central Avenue crossing structures.
H - Haul road crossing structures.
T - Crossing structures on roadway south of I-40 near Tierra West Mobile Home Park.

AMOLE ARROYO - WESTGATE DAM
DRAINAGE MANAGEMENT PLAN

FINAL

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority

Technical Appendix

Prepared by:
Debra Vaughan-Cleft, P.E.

JUNE, 1994

APPENDIX H - HYDROLOGIC ANALYSES

Existing Conditions

Sub-basin Data Spreadsheet

AHYMO Summary Table; 100-year, 24-hour Storm (no areal reducation)

Future Conditions (no improvements)

Sub-basin Data Spreadsheet

AHYMO Summary Table; 100-year, 24-hour Storm (no areal reducation)

Preferred Alternate

AHYMO Summary Table; 100-year, 24-hour Storm (no areal reducation)

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 7 Existing H NOTATION
ADD HYD	504.10	4& 5	1	3.27886	456.28	75.613	.43239	1.950	.217	
COMPUTE NM HYD	500.00	-	4	.00628	11.51	.337	1.00741	1.500	2.864	PER IMP= 1.00
ADD HYD	504.20	4& 1	6	3.28514	458.06	75.949	.43348	1.950	.218	
COMPUTE NM HYD	316.00	-	1	.02386	44.99	1.390	1.09203	1.500	2.946	PER IMP= 6.90
ROUTE RESERVOIR	316.01	1	3	.02386	27.93	1.064	.83637	1.650	1.829	AC-FT= .566
ROUTE	316.10	3	1	.02386	26.28	1.064	.83634	1.700	1.721	
COMPUTE NM HYD	325.00	-	2	.00553	11.57	.415	1.40754	1.500	3.269	PER IMP= 28.90
ADD HYD	324.60	3& 1	2	3.32649	485.74	78.119	.44032	1.950	.228	
ROUTE	324.50	2	1	3.32649	483.65	78.118	.44032	2.000	.227	
COMPUTE NM HYD	323.00	-	2	.00343	7.15	.255	1.39320	1.500	3.256	PER IMP= 27.90
ROUTE	323.10	2	3	.00343	3.53	.255	1.39334	1.650	1.607	

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 7 Prefer H NOTATION
ADD HYD	504.20	4& 1	6	3.28514	1449.19	189.003	1.07874	1.800	.689	
COMPUTE NM HYD	316.00	-	1	.02386	42.83	1.371	1.07751	1.500	2.805	PER IMP= 6.90
ROUTE RESERVOIR	316.01	1	3	.02386	42.83	1.371	1.07751	1.500	2.805	
ROUTE	316.10	3	1	.02386	38.29	1.371	1.07764	1.500	2.507	
COMPUTE NM HYD	325.00	-	2	.00553	10.89	.412	1.39756	1.500	3.076	PER IMP= 28.90

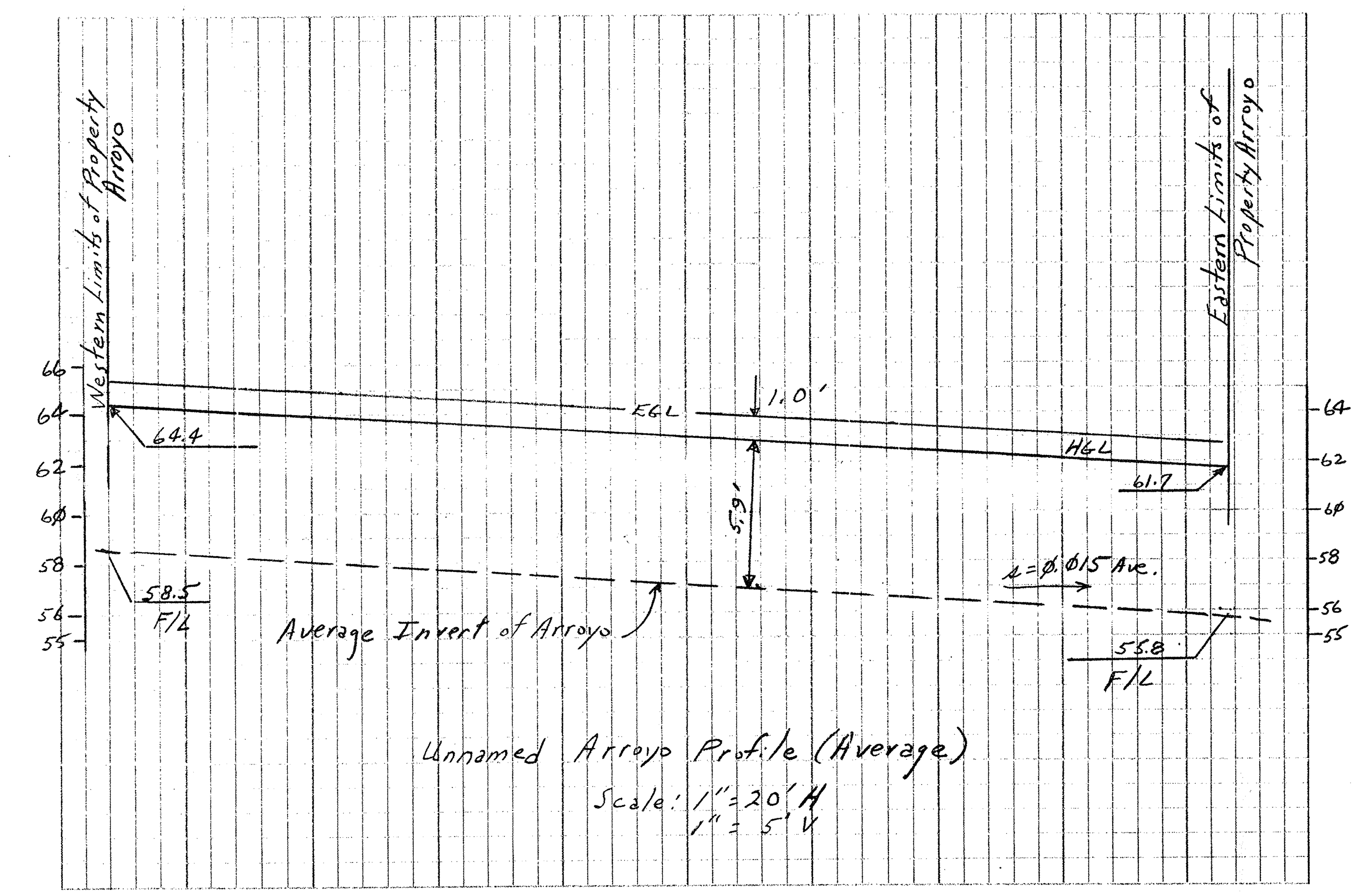
COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 7 Future NOTATION
ADD HYD	504.20	4& 1	6	3.28514	2065.00	303.083	1.72985	1.800	.982	
COMPUTE NM HYD	316.00	-	1	.02386	44.99	1.390	1.09203	1.500	2.946	PER IMP= 6.90
ROUTE RESERVOIR	316.01	1	3	.02386	44.99	1.390	1.09203	1.500	2.946	
ROUTE	316.10	3	1	.02386	44.25	1.390	1.09205	1.500	2.898	
COMPUTE NM HYD	325.00	-	2	.00553	11.57	.415	1.40754	1.500	3.269	PER IMP= 28.90
ADD HYD	324.60	3& 1	2	3.32649	2092.31	305.571	1.72237	1.800	.983	
ROUTE	324.50	2	1	3.32649	2083.37	305.541	1.72220	1.850	.979	
COMPUTE NM HYD	323.00	-	2	.00343	7.15	.255	1.39320	1.500	3.256	PER IMP= 27.90
ROUTE	323.10	2	3	.00343	3.53	.255	1.39334	1.650	1.607	

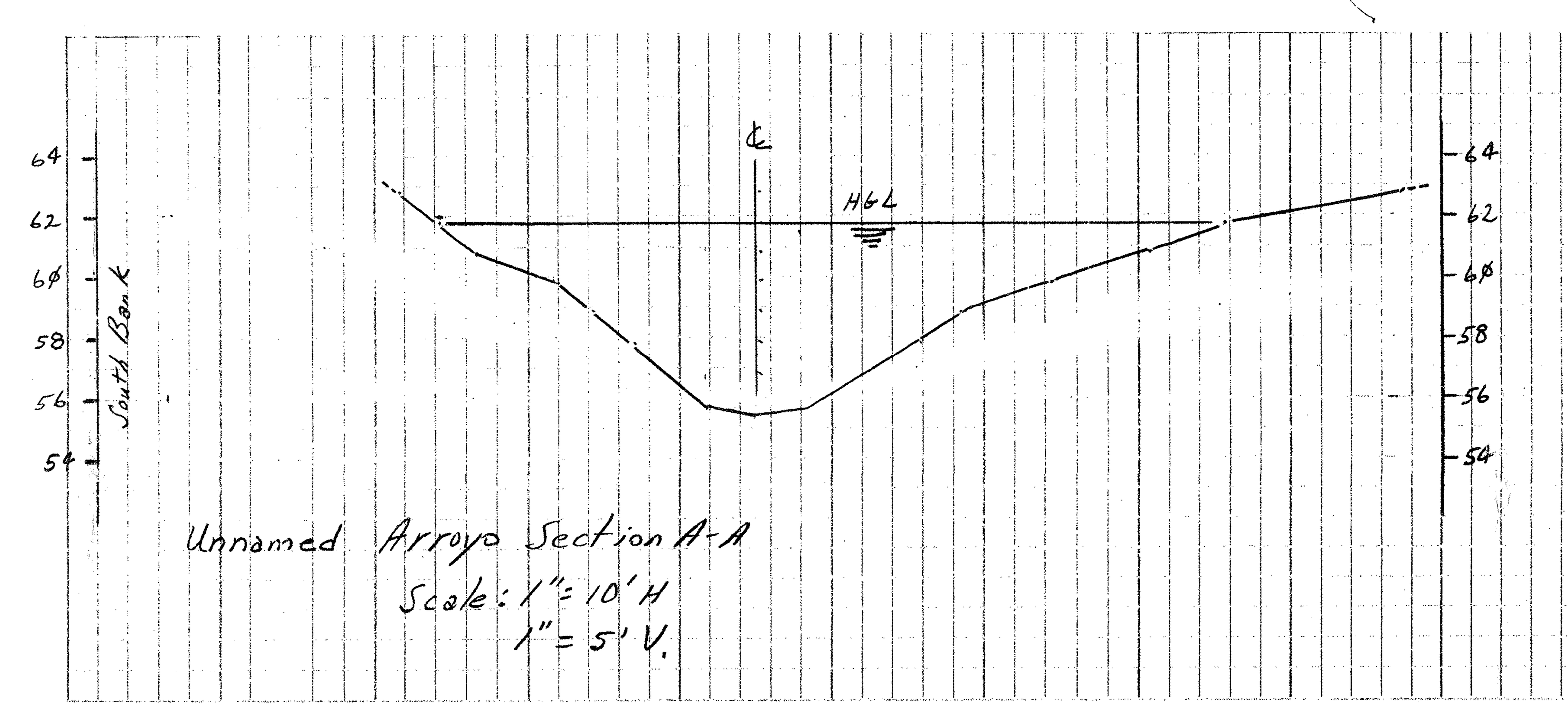
LifeTalk Radio

Mean Flow Depth at Maximum Arroyo Flow

F.N.: E5 WDE Projects.97H01.12219801

A	B	C	D	E	F	G	H	I	J	K	L	M	
2		Formula Basis:	Manning's Equations for Turbulent Flow in Open Channels.						Reference[A]				
3			(Trapezoidal Shape)										
4			Q = [K * D^(8/3) * s^(1/2)] / n.						7 - 15; (7-38)				
5			K = [1.486 * (z + 1/x)^(5/3)] / [1/x + 2(z^2 + 1)^(1/2)]^2/3.						7 - 13; (7-37)				
6			z = e/D						7 - 3; (7-2)				
7			x = D/b						7 - 3; (7-3)				
8													
9	Calculated Q, cfs =		1,452		at "D mean", Feet:	5.850		South Arroyo side "e" value, Feet =		16.7	Channel Base width, Ft. =		6.5
10	hannel Area, Sq. Ft. =		179.24		Flow Velocity, fps =	8.1		North Arroyo side "e" value, Feet =		26.8		n =	0.045
11		EGL, Ft. =	1.0										





Land Area and Treatment Summary

LifeTalk Radio AHYMO

Basin No. 1 — On-site area proposed to be developed.
Area = 27,300.00 (Sq. Ft.) 0.000979 (Sq. Mi.)

Land Treatment Area %'s	Existing	Existing (Sq.Ft.)	Dev'ped (%)	Dev'ped (Sq.Ft.)
A	85.43	23,322	2.00	546
B	7.76	2,118	3.00	819
C	6.81	1,859	5.00	1365
D	0.00	0	90.00	24570
Total =	100.00	27,300	100.00	27300

	Existing Peak Discharge (cfs) 10 Yr.	Existing Peak Discharge (cfs) 100 Yr.	Developed Peak Discharge (cfs) 10 Yr.	Developed Peak Discharge (cfs) 100 Yr.	Existing Discharge Volume (Ac. Ft.) 10 Yr.	Existing Discharge Volume (Ac. Ft.) 100 Yr.	Developed Discharge Volume (Ac. Ft.) 10 Yr.	Developed Discharge Volume (Ac. Ft.) 100 Yr.	Existing Discharge (inches) 10 Yr.	Existing Discharge (inches) 100 Yr.	Developed Discharge (inches) 10 Yr.	Developed Discharge (inches) 100 Yr.
Total	0.21	0.92	1.70	2.68	0.006	0.025	0.060	0.096	0.110	0.487	1.142	1.845
10 Yr. Diff.; Ex. Vs. Dev. =	1.49				0.054				1.032			
100 Yr. Diff.; Ex. Vs. Dev. =	1.76				0.071				1.358			

Basin No. 2 — On-site area to be left un-disturbed.
Area = 30,324.00 (Sq. Ft.) 0.001088 (Sq. Mi.)

Land Treatment Area %'s	Existing	Existing (Sq.Ft.)	Dev'ped (%)	Dev'ped (Sq.Ft.)
A	20.99	6,365	4.00	1,213
B	20.35	6,171	4.00	1,213
C	58.66	17,788	2.00	606
D	0.00	0	90.00	27,292
Total =	100.00	30,324	100.00	30,324

	Existing Peak Discharge (cfs) 10 Yr.	Existing Peak Discharge (cfs) 100 Yr.	Developed Peak Discharge (cfs) 10 Yr.	Developed Peak Discharge (cfs) 100 Yr.	Existing Discharge Volume (Ac. Ft.) 10 Yr.	Existing Discharge Volume (Ac. Ft.) 100 Yr.	Developed Discharge Volume (Ac. Ft.) 10 Yr.	Developed Discharge Volume (Ac. Ft.) 100 Yr.	Existing Discharge (inches) 10 Yr.	Existing Discharge (inches) 100 Yr.	Developed Discharge (inches) 10 Yr.	Developed Discharge (inches) 100 Yr.
Total	0.71	1.63	1.86	2.90	0.017	0.045	0.660	0.106	0.293	0.783	1.133	1.831
10 Yr. Diff.; Ex. Vs. Dev. =	1.15				0.643				0.840			
100 Yr. Diff.; Ex. Vs. Dev. =	1.27				0.061				1.048			

Basin No. 3 — Off-site area draining to On-site Area to be graded.
Area = 31,893.00 (Sq. Ft.) 0.001144 (Sq. Mi.)

Land Treatment Area %'s	Existing	Existing (Sq.Ft.)	Dev'ped (%)	Dev'ped (Sq.Ft.)
A	14.11	4,500	2.00	638
B	8.00	2,551	3.00	957
C	76.76	24,481	5.00	1,595
D	1.13	360	90.00	28,704
Total =	100.00	31,893	100.00	31,893

	Existing Peak Discharge (cfs) 10 Yr.	Existing Peak Discharge (cfs) 100 Yr.	Developed Peak Discharge (cfs) 10 Yr.	Developed Peak Discharge (cfs) 100 Yr.	Existing Discharge Volume (Ac. Ft.) 10 Yr.	Existing Discharge Volume (Ac. Ft.) 100 Yr.	Developed Discharge Volume (Ac. Ft.) 10 Yr.	Developed Discharge Volume (Ac. Ft.) 100 Yr.	Existing Discharge (inches) 10 Yr.	Existing Discharge (inches) 100 Yr.	Developed Discharge (inches) 10 Yr.	Developed Discharge (inches) 100 Yr.
Total	0.90	1.89	1.98	3.08	0.022	0.054	0.070	0.113	0.357	0.877	1.142	1.845
10 Yr. Diff.; Ex. Vs. Dev. =	1.08				0.048				0.785			
100 Yr. Diff.; Ex. Vs. Dev. =	1.19				0.059				0.968			

Basin No. 4 — Off-site area draining to On-site to be left un-disturbed.
Area = 221,080.46 (Sq. Ft.) 0.007930 (Sq. Mi.)

Land Treatment Area %'s	Existing	Existing (Sq.Ft.)	Dev'ped (%)	Dev'ped (Sq.Ft.)
A	11.52	25,468	2.00	4,422
B	2.00	4,422	3.00	6,632
C	77.95	172,332	80.00	176,864
D	8.53	18,858	15.00	33,162
Total =	100.00	221,080	100.00	221,080

	Existing Peak Discharge (cfs) 10 Yr.	Existing Peak Discharge (cfs) 100 Yr.	Developed Peak Discharge (cfs) 10 Yr.	Developed Peak Discharge (cfs) 100 Yr.	Existing Discharge Volume (Ac. Ft.) 10 Yr.	Existing Discharge Volume (Ac. Ft.) 100 Yr.	Developed Discharge Volume (Ac. Ft.) 10 Yr.	Developed Discharge Volume (Ac. Ft.) 100 Yr.	Existing Discharge (inches) 10 Yr.	Existing Discharge (inches) 100 Yr.	Developed Discharge (inches) 10 Yr.	Developed Discharge (inches) 100 Yr.
Total	7.22	14.19	8.34	15.47	0.190	0.422	0.228	0.473	0.449	0.997	0.538	1.118
10 Yr. Diff.; Ex. Vs. Dev. =	1.12				0.038				0.089			
100 Yr. Diff.; Ex. Vs. Dev. =	1.28				0.051				0.121			

F.N.: E5.W98.E97.WDE.Projects.97H01.Summary.

01-28-99

DRAINAGE MANAGEMENT PLAN

LIFETALK BROADCASTING ASSOCIATION

12000 VOLCANO ROAD, N.W.
UPC 1-007-056-090-380-212-05

Portion of Tract 41
Town of Atrisco Grant
Second Row North, Unit A
as shown on "Plat of Survey"
Recorded in the Bernalillo County Clerk's
Office as Instrument No. 96056753

WESTERN DEVELOPMENT ENGINEERING, INC.

5015 Prospect Avenue, N.E.
Albuquerque, New Mexico 87110

505-830-0262 (V)
505-830-0209 (F)

SHEET NO. 2 OF 3.

ZAP______

GRANT OF EASEMENT
FLOODWAY AND STORM DRAINAGE WORKS

LifeTalk Broadcasting Association, a Non-Profit Corporation as filed in the State of Washington, Grantor, being the Owner of the property described herein, for good and valuable consideration, the receipt of which is hereby acknowledged, hereby grants, bargains, sells and conveys to the ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY, a political subdivision of the State of New Mexico, (AMAFCA), its successors and assigns, the permanent right and easement for drainage, flood control and the conveyance and storage of storm water, and for the construction, reconstruction, operation and maintenance of, and access to, such appurtenant facilities as may be necessary on, in, under, over and across the following described real estate:

The land in which the foregoing rights and easement are granted is described as **the northerly portion of a portion of Tract 41, second row north, Unit A, West of Westland as shown on the "Plat of Survey for Westland Development Company, Inc. recorded in the Clerk's Office of Bernalillo County, State of New Mexico as Instrument No. 96056753**,

being more particularly described in Exhibit A attached hereto and incorporated herein by reference.

Except with the written approval of AMAFCA, no fence, wall, building, or other obstruction may be placed or maintained in said easement, and there shall be no alteration of the grades or contours in said easement. The granting of this easement shall not obligate AMAFCA to maintain any arroyo, drainage channel or other facility, nor shall this easement require AMAFCA to provide for 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 so agrees to maintain property and/or improvements, all maintenance responsibility shall remain with the Grantor. Landscaping or maintenance work by 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 easement 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, to run with the land forever. However, to the extent any portion of the above granted easement area is declared unnecessary for flood control or drainage by the Board of Directors of the Albuquerque Metropolitan Arroyo Flood Control Authority, said portion of the easement shall revert to the Grantor. Any such reversion shall be accomplished by way of a quitclaim deed to the Grantor.

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 **the hand of its President** and **corporate** seal this 3rd day of **December**, 1998.

GRANTOR: LifeTalk Broadcasting Association, a Non-Profit Corporation

By: Paul Moore
Its **President**

ACKNOWLEDGMENT FOR CORPORATIONS

STATE OF WASHINGTON)
)s.s.
COUNTY OF YAKIMA)

The foregoing instrument was acknowledged before me this 3rd day of **December**, 1998 by **Paul Moore**, the **President** of **LifeTalk Broadcasting Association, a Non-Profit Corporation in the State of Washington**.

JUDITH K. ANDERSON
NOTARY PUBLIC
STATE OF WASHINGTON
Commission Expires MAY 9, 2001

My Commission expires:

May 9, '01

Notary Public Moxee, WA

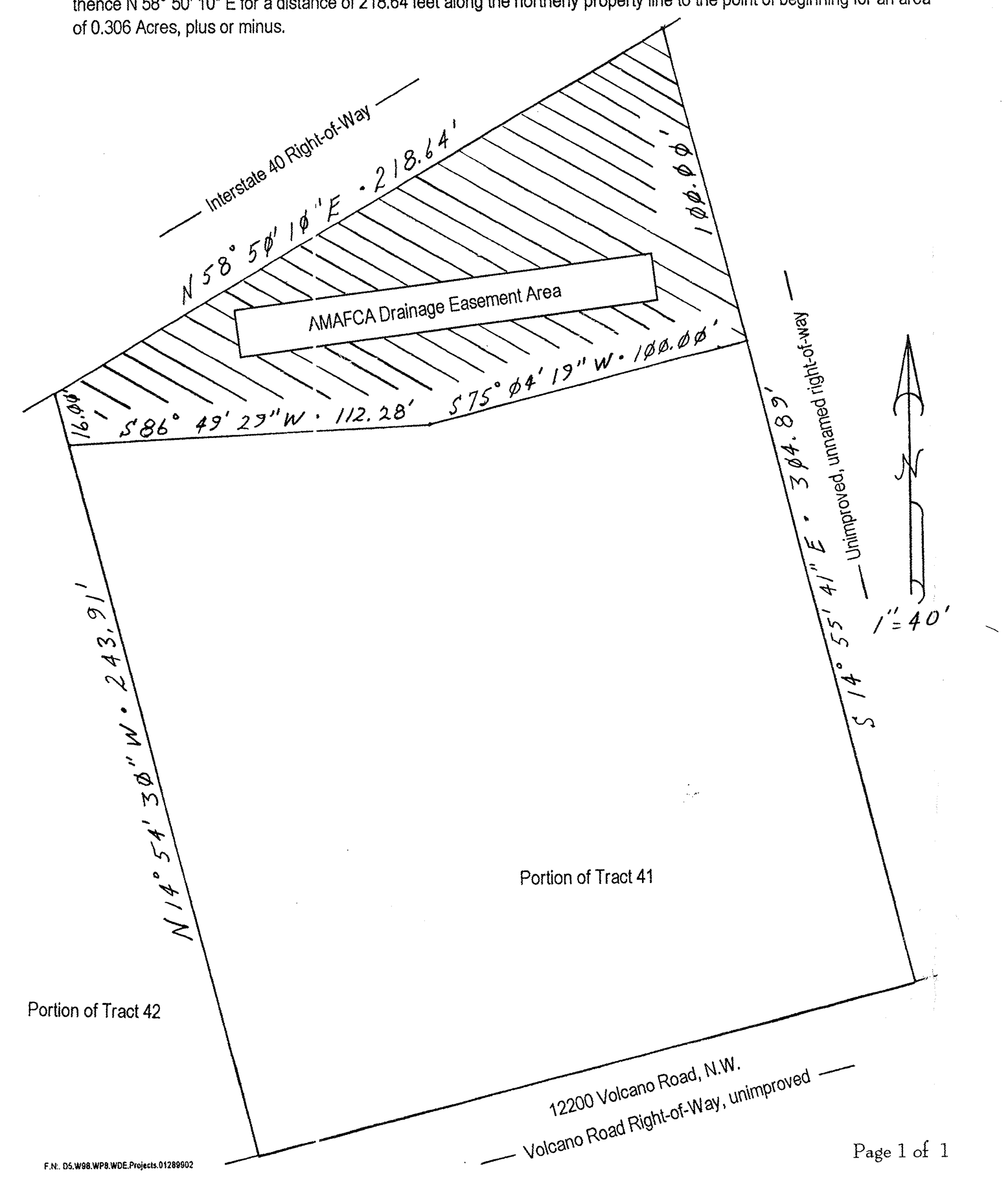
Elley J. Biathur Jr
01-28-99

EXHIBIT A
to
GRANT OF EASEMENT
FLOODWAY AND STORM DRAINAGE WORKS
for

Portion of Tract 41, Town of Atrisco Grant
Second Row North, Unit A

Beginning at the northeast corner of said Tract lying on the southerly right-of-way line of Interstate 40, marked with a found rebar with cap "PS 11993" from whence a tie to N.M.S.H.C. Monument No. "I-40-26" bears N 58° 45' 13" E, a distance of 329.86 feet;

Thence from said beginning point S 14° 55' 41" E along the west line of a proposed road, said line also the easterly property line of said Tract, a distance of 100.00 feet to a point on said line;
thence S 75° 04' 19" W for a distance of 100.00 feet to an angle point;
thence S 86° 49' 29" W for a distance of 112.28 feet to a point on the westerly property line of said Tract;
thence N 14° 54' 30" W for a distance of 16.00 feet to the northwest corner of said Tract, said point lying on the southerly right-of-way line of Interstate 40, marked with a found rebar and cap marked "LS7719"; and
thence N 58° 50' 10" E for a distance of 218.64 feet along the northerly property line to the point of beginning for an area of 0.306 Acres, plus or minus.



LifeTalk Radio Drainage Management Plan

A. Site Parameters

1. The legal description of the subject property is a portion of Tract 41, Unit A, Town of Atrisco Grant, Second Row North. The physical address is 12200 Volcano Road, N.W., Albuquerque, NM 87121. Volcano Road is an unimproved roadway.
2. The subject property has a defined floodplain, Zone A (No base flood elevations determined), as presented on FIRM No. 35001C0309; published Effective Date of September 20, 1996.
3. The FIRM defined floodplain is located to the northern side of the subject property and follows an unnamed tributary arroyo of the East Branch of the Amole Arroyo.
4. The analyzed limits of floodplain for the 100 year event through the subject property have been plotted on the Drainage Management Plan.
5. The unnamed arroyo tributary to the East Branch of the Amole Arroyo Amole Arroyo running across the northern portion of the subject property has an irregular shape in its western portion and a typical trapezoidal shape in the eastern portion of the arroyo. The eastern reach of the arroyo across the subject property has the smaller cross section, i.e a constricted section when compared to the western reach of the arroyo. For this reason, the cross section (see Section A-A location on Sheet No. 1 and cross section on Sheet No. 2) to determine the mean depth of the 100 year event was located in the eastern reach of the arroyo across the subject property.
6. The physical location of the subject property with respect to the area's landform places the site at the top and to the northerly side of a ridgeline running east-west, thus the upstream drainage basin onto the developed portion of the subject site is extremely limited, see outlined Basins on the Drainage Plan, Sheet No. 1.

B. Basis of Drainage Management Plan

1. Topography included with the original FIRM floodplain definition, together with the Zone Atlas site definition have been used to locate the FEMA defined floodplain on the topography map with respect to the subject site, See Exhibit on Sheet No. 1 of the three sheet drainage study for the subject project.
2. Hydrology for the Amole Arroyo, including the unnamed arroyo tributary of the East Branch of the Amole Arroyo, was the focus of a drainage study entitled "Amole Arroyo - Westgate Dam Drainage Management Plan" (AA-WDDMP) prepared for AMAFCA, "FINAL: report of June, 1994, said report being adopted by AMAFCA Resolution 1994-4, April 28, 1994 with Alternate H as the selected alternative.
3. The AA-WDDMP states that:
   a. the existing flow through the subject property during the analyzed flood event is 486 cfs;
   b. the maximum capacity of the two (2) 10 foot by 4 foot Concrete Box Culverts (CBC) crossing beneath Interstate 40 and discharging immediately upstream of the subject property into the unnamed tributary arroyo of the East Branch of the Amole Arroyo has been determined to 700 cfs; and
   c. the 100 year, 24 Hour event for the "Preferred" drainage solution is 1,449 cfs - with modifications to the Interstate 40 crossing and downstream arroyo.
4. The present, adopted drainage analysis for the Amole Arroyo floodplain, including the unnamed tributary of the East Branch of the Amole Arroyo running through the subject site, and its defined drainage alternate improvements (Alternate H with a "Preferred" flow of 1,449 cfs has been used as the basis of the Drainage Management Plan for the said project.
5. The on-site improvements (graded pad, roof, and foundation pad) are to be designed and constructed in such a manner as to direct the drainage from the improved site into the existing unnamed arroyo tributary of the East Branch of the Amole Arroyo on-site.

C. Calculations

1. Using the AA-WDDMP defined flow of 1,449 cfs, the velocity of the 100 year event through Section A-A of the existing cross section of the unimproved, unnamed arroyo is calculated to be 8.1 fps by the Continuity concept of fluid flow formula; V = Q/A.
2. Using the AA-WDDMP defined flow of 1,449 cfs, the mean water depth has been determined to be 5.9 feet, see Exhibit on Sheet No. 2.
3. An erosional setback limit from the edge of the herein defined floodplain has been established as the product of the maximum discharge flow/100 times a factor of 6, i.e. a distance of 87 feet. This limit has been plotted on the Drainage Management Plan (Sheet 1) as the erosional setback limit, said limit beginning at the edge of water flow at maximum depth since the edge of maximum water flow encroaches further onto the subject site than does the FEMA Floodplain limits.

D. Conclusions

1. The legal description of land included within the herein defined floodplain and potential erosional area has been generated and included as Exhibit A to the "Grant of Easement, Floodway and Storm Drainage Works" executed by the Owner of the subject property, said easement shown hereon as an Exhibit on Sheet No. 3.
2. For a discharge quantity above 700 cfs through the unnamed tributary arroyo of the East Branch of the Amole Arroyo reach within the subject property to be increased, significant improvements will have to be made to the CBC's crossing Interstate 40 and the subsequent downstream channelization. However; since the adopted Drainage Management Plan for this area defines a "Preferred" flow of 1,449 cfs through the subject property and there may not be channel improvements, use of the full flow (1,449 cfs) is considered appropriate for use in determining the mean water depth and erosional setback limits.
3. Total runoff from the developed portion of the subject site is 0.202 acre-feet at a maximum rate of 5.53 cfs--all flow on-site discharge into the unnamed arroyo tributary of the East Branch of the Amole Arroyo.
4. Development of the "Preferred" alternate flow of 1,449 cfs is considered to include the existing zoning of upstream properties, including the subject site, i.e. commercial. AHYMO analysis of commercial property calls for 90% Land Treatment D. The subject site improvements amount to less than 7% impervious surface area.
5. Development of this site is considered not to contribute to adverse drainage impacts to downstream property. The peak runoff from this site is in the arroyo and gone well before the peak from the upstream watershed reaches the subject site.

E. Construction Requirements

1. All earthwork shall comply with the recommendations contained within the Geotechnical Report prepared by Vinyard and Associates, dated January 16, 1997.
2. Design grading and drainage of this lot conforms to mandatory drainage features. Landscaping and/or other improvements constructed after delivery of the site graded to the design shown hereon must maintain identical slopes and drainage patterns shown hereon. Should this site be sold, the Owner agrees to provide this Design Plan to subsequent Buyer to maintain the same design features.
3. Earth surfaces disturbed in the construction process will either be re-vegetated with landscaping (native plants and/or grasses).
4. Perimeter walls or similar fences shall be such construction that will permit surface runoff passage without concentration of runoff.
5. The Contractor must obtain a Topsoil Disturbance Permit from the Environmental Health Department prior to Construction.
6. The Contractor shall conform to all applicable Governmental Entity requirements for dust control measures and shall be responsible for preparing and obtaining all necessary governmental applications, approvals, and permits prior to construction.
7. New Mexico State Standard Specifications for Public Works Construction, Latest Edition, shall govern all work.
8. The Contractor shall ensure that no soil erodes from the site into Public Right-of-Ways. Implementation of necessary control measures such as construction of temporary berms, soil wetting, and/or similar measures are the Contractor's responsibility. The Contractor shall remove and restore and eroded soil material eroded from the site.

DRAINAGE MANAGEMENT PLAN

LIFETALK BROADCASTING ASSOCIATION

12000 VOLCANO ROAD, N.W.
UPC 1-007-056-090-380-212-05

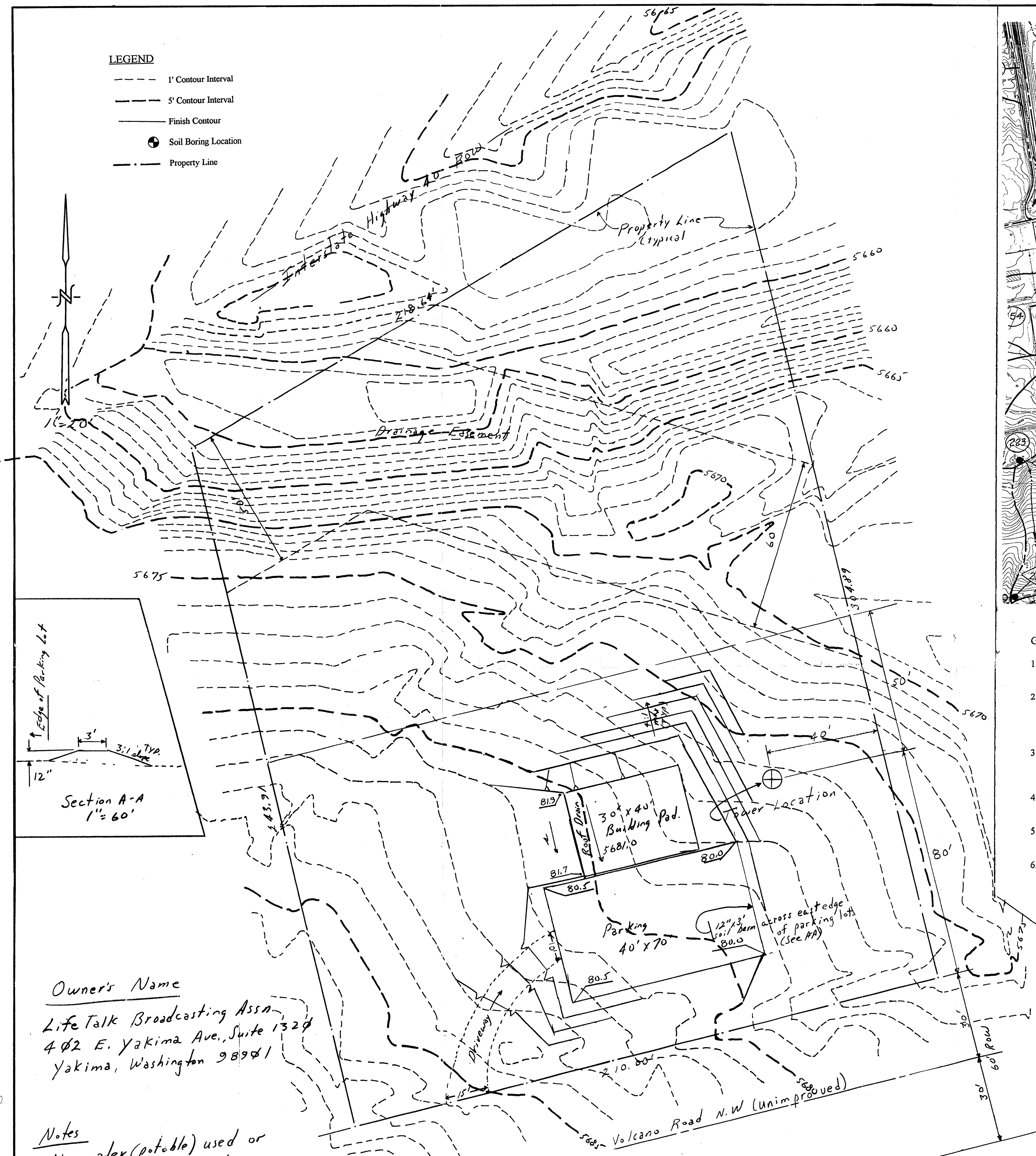
Portion of Tract 41
Town of Atrisco Grant
Second Row North, Unit A
as shown on "Plat of Survey"
Recorded in the Bernalillo County Clerk's
Office as Instrument No. 96056753

WESTERN DEVELOPMENT ENGINEERING, INC.

5015 Prospect Avenue, N.E.
Albuquerque, New Mexico 87110

505-830-0262 (V)
505-830-0209 (F)

SHEET NO. 3 OF 3.



Owner's Name

Life Talk Broadcasting Assn.
4Ø2 E. Yakima Ave., Suite 132Ø
Yakima, Washington 989Ø1

Notes

No water (potable) used or liquid wastes generated.

Engineer's Certification

I, Ellery A. Biathrow, Jr., New Mexico Registered Engineer No. 12070 hereby certify that I have personally observed the property shown hereon, obtained the topography through the firm of Precision Surveys, and that it appears that no grading (filling or excavation) other than through the hereon defined Drainage Easement for construction of the Interstate has occurred hereon.

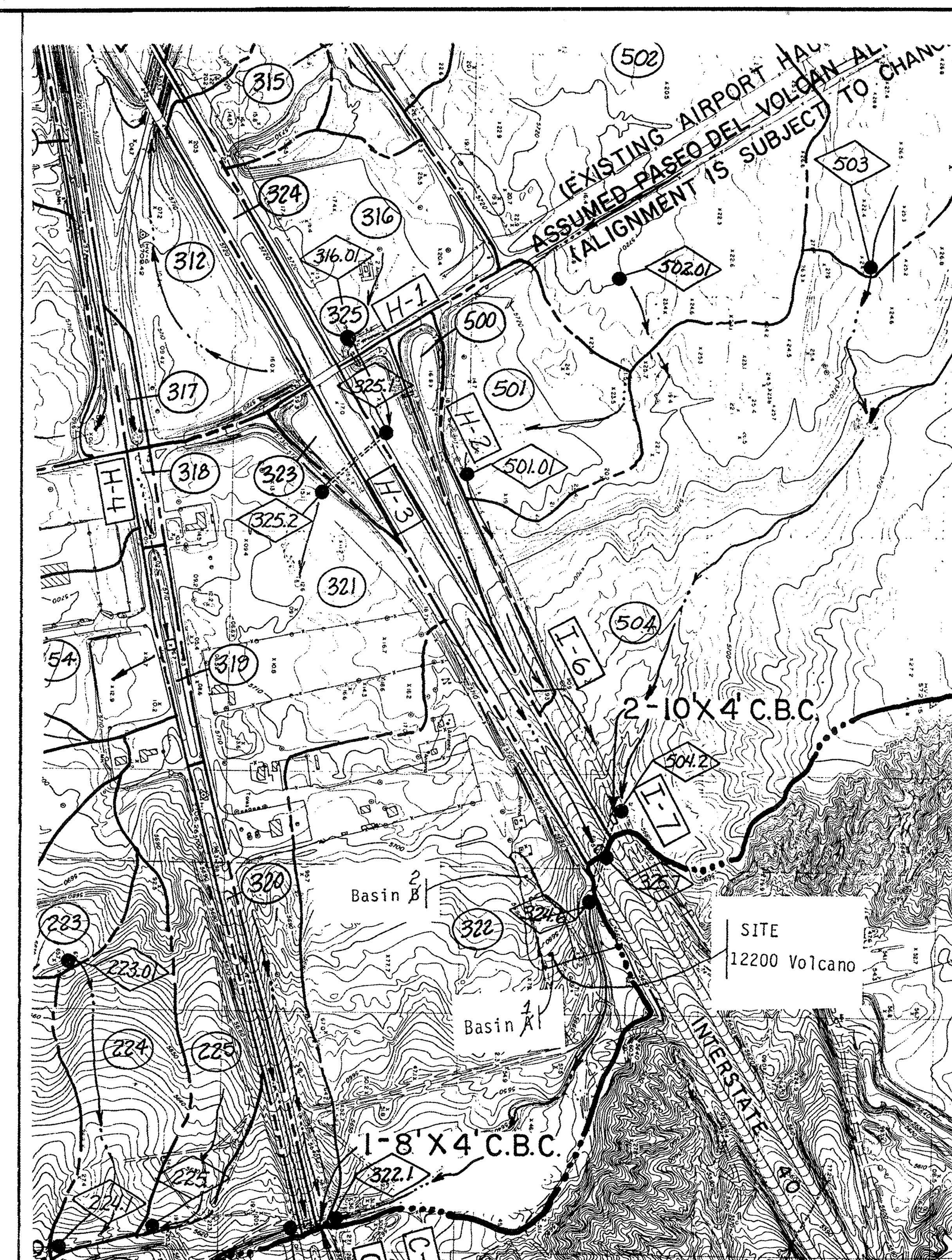
Ellery A. Biathrow, Jr., P.E. - NMPE No. 12070 98-21-98

Owner's Certification

I, Loren Olsen, General Manager of Life Talk Radio Network have reviewed and understand this Design Grading and Drainage Plan. I accept this information and agree to construct the improvements as defined hereon subject to setback requirements, if different than shown hereon. Any minor deviations from this plan that may be necessary are also accepted without the right to review; however, any material deviations from this plan, for whatever reason, shall be provided for my review and approval.

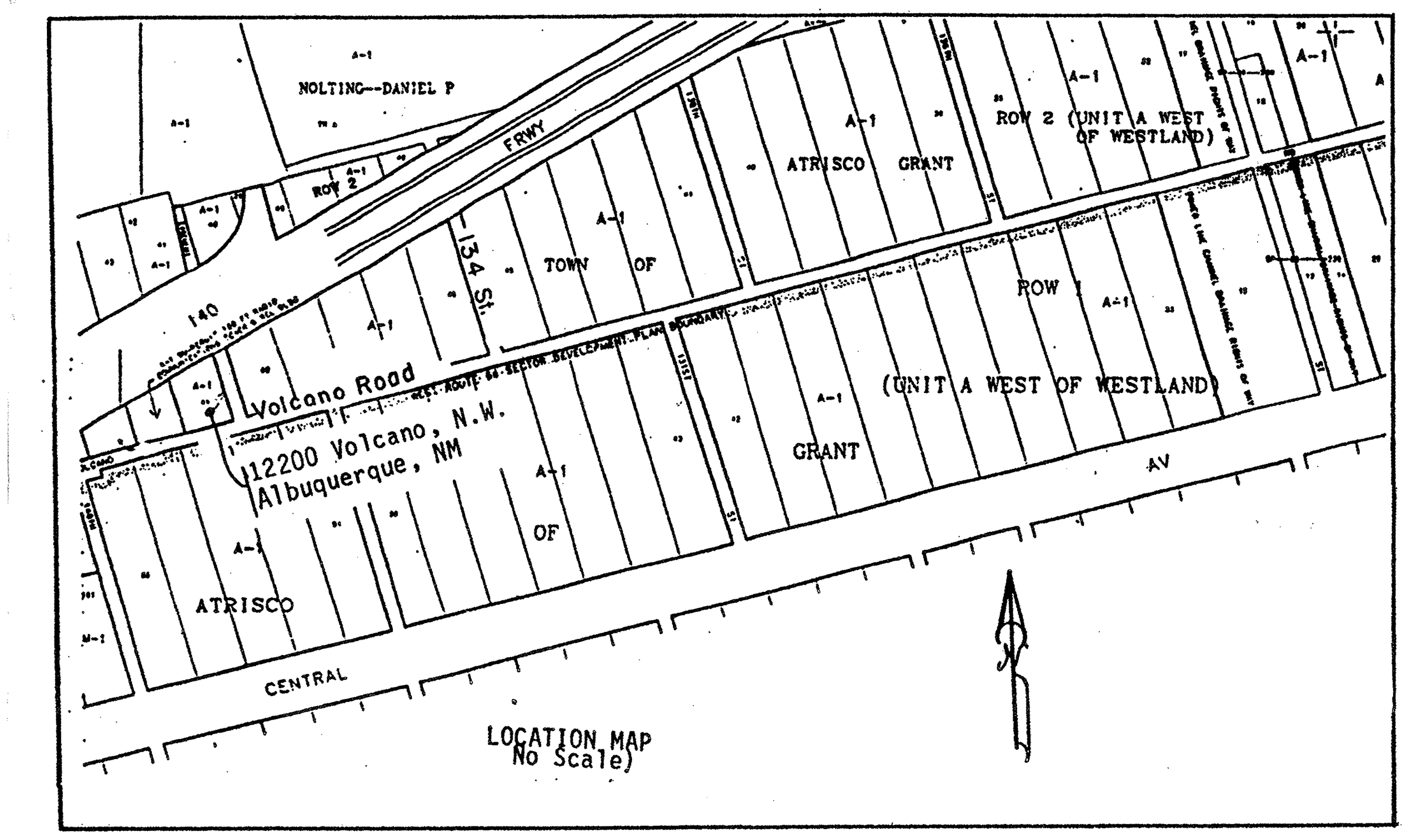
LIFE TALK RADIO NETWORK

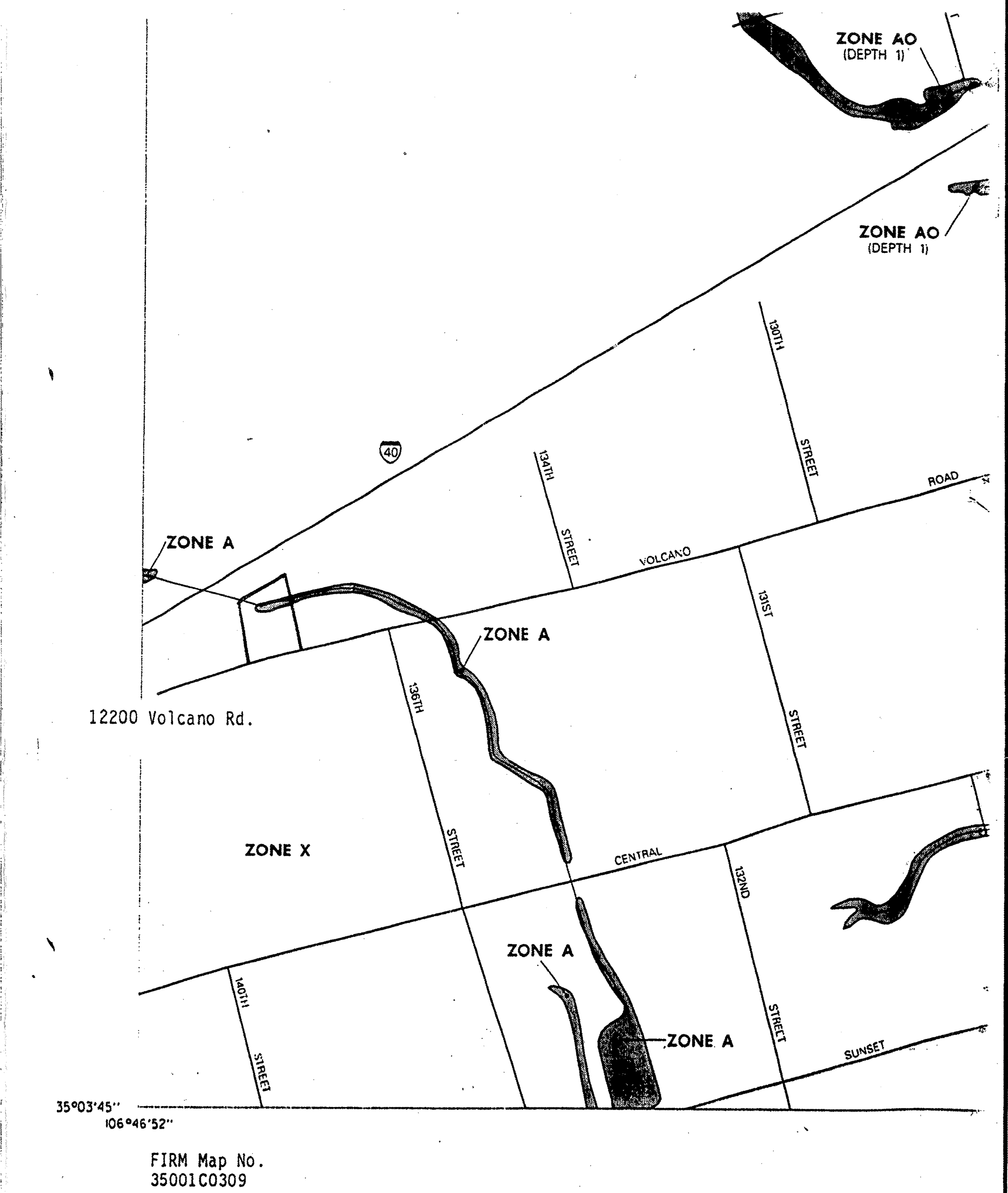
Loren Olsen, General Manager 3/20/98



Grading and Drainage Plan Notes:

1. All earthwork shall comply with the recommendations contained within the Geotechnical Report prepared by Vinyard and Associates, dated January 16, 1997.
2. Design grading and drainage of this lot conforms to mandatory drainage features. Landscaping and/or other improvements constructed after delivery of the site graded to the design shown hereon must maintain identical slopes and drainage patterns shown hereon. Should this site be sold, the Owner agrees to provide this Design Plan to subsequent Buyer to maintain the same design features.
3. The site is located within a subdivision block that exhibits drainage to the east northeast. A major drainage arroyo traverses the site, the arroyo sloping to the east in the northern portion of the site. Both the arroyo and southerly slope of the arroyo lies within the existing Drainage Easement.
4. On site drainage flows both the existing arroyo at the north edge of the property and to the adjacent property lying to the east.
5. Earth surfaces disturbed in the construction process will either be re-vegetated with landscaping (native plants and/or grasses).
6. Perimeter walls or similar fences shall be such construction that will permit surface runoff passage without concentration of runoff.





7. Drainage for the applicable basin, identified as No. 322 of the Amole Arroyo - Westgate Dam's Drainage Management Plan includes the subject site. This basin has been further subdivided into two basins; Basin A is within the subject property lines and consists of that southerly portion of the property subject to development (an area measuring 130 feet by 210 feet) and Basin B is the localized up slope drainage basin that flows onto the subject property.

8. Drainage for Basins A and B have been calculated using the AHYMO program. The topography and limits of the basins are shown hereon. Calculation data (100 hundred year event for 6 hours) and output files are attached to support the design premise that the graded parking lot will retain developed runoff.

Summary: Total runoff from the up slope drainage Basin No. 2 in the fully developed state is 0.0506 acre-feet at a velocity of 1.64 cfs in a sheet flow onto Basin No. 1 (the developed site).

Total runoff from the developed portion of the subject site is 0.0529 acre-feet at a velocity of 1.83 cfs under sheet flow conditions; said conditions will be changed with the site development wherein building runoff is directed to the parking lot area. The downslope side of the parking lot (east side) is bermed with a 12 inch high barrier. This barrier (berm) is level across the top and will serve to uniformly discharge parking lot runoff that builds up during a major event, maximum velocity is less than one (1) fps at a depth of 0.05'. The overtopping velocity is less than the erosional velocity of berm material.

Plot Plan

12,200 Volcano Rd. NW

UPC 1-ØØ7-Ø56-Ø9Ø-38Ø-212-Ø5

Portion of Lot 41, Unit A
Second Row North