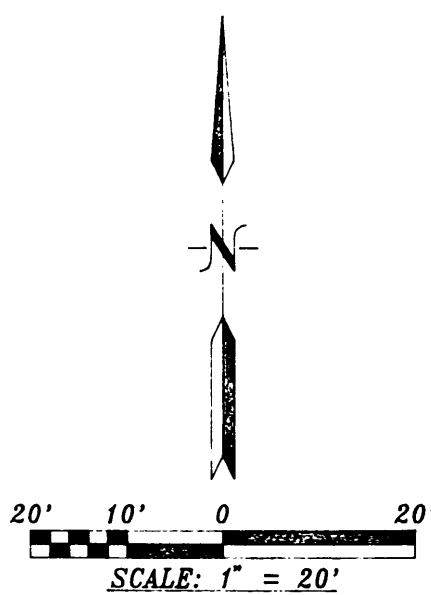
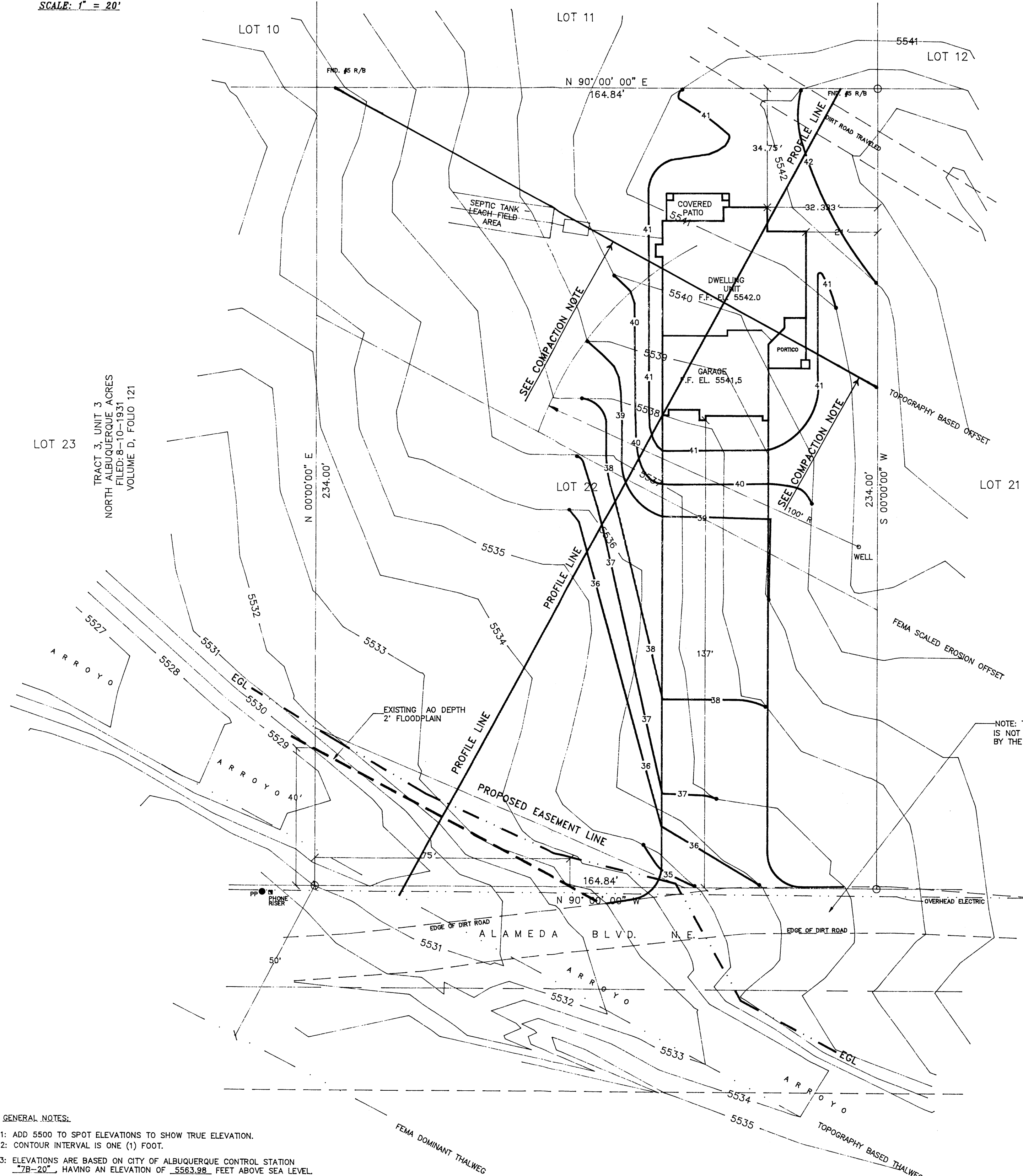


PLAT OF TOPOGRAPHY
OF
LOT 22, BLOCK 3
TRACT 3, UNIT 3
NORTH ALBUQUERQUE ACRES
CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO
FEBRUARY, 1998

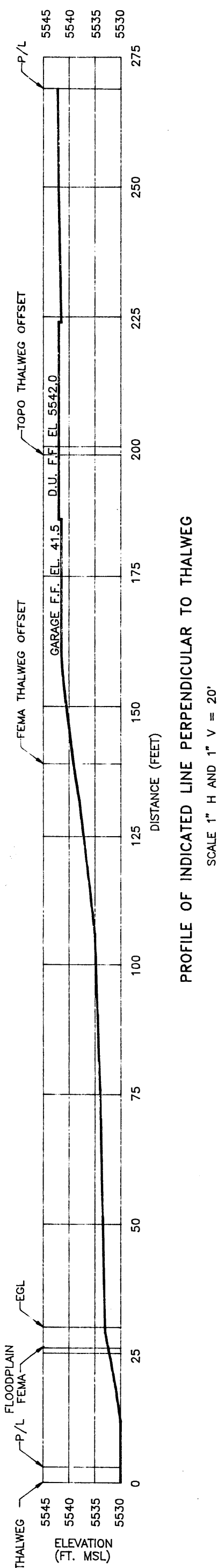


TRACT 3, UNIT 3
NORTH ALBUQUERQUE ACRES
FILED: 8-10-1931
VOLUME D, FOLIO 121



- GENERAL NOTES:
- 1: ADD 5500 TO SPOT ELEVATIONS TO SHOW TRUE ELEVATION.
 - 2: CONTOUR INTERVAL IS ONE (1) FOOT.
 - 3: ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE CONTROL STATION "7B-20", HAVING AN ELEVATION OF 5563.98 FEET ABOVE SEA LEVEL.
 - 4: UTILITIES SHOWN HEREON ARE IN THEIR APPROXIMATE LOCATION BASED ONLY ON ABOVE GROUND EVIDENCE FOUND IN THE FIELD AND AS-BUILT INFORMATION PROVIDED BY THE CLIENT. UTILITIES SHOWN HEREON, WHETHER INDICATED AS ABANDONED OR NOT, SHALL BE VERIFIED BY OTHERS FOR EXACT LOCATION AND/OR DEPTH PRIOR TO EXCAVATION OR DESIGN CONSIDERATIONS.
 - 5: THIS IS NOT A BOUNDARY SURVEY, BEARINGS ARE ASSUMED, DISTANCES AND FOUND PROPERTY CORNERS ARE FOR INFORMATIONAL PURPOSES ONLY.

TRACT 3, UNIT 3
NORTH ALBUQUERQUE ACRES
FILED: 8-10-1931
VOLUME D, FOLIO 121



PROFILE OF INDICATED LINE PERPENDICULAR TO THALWEG
SCALE 1" H AND 1" V = 20'

ADDENDUM TO GENERAL DISCUSSION, 04/18/98:

TWO OTHER EROSION OFFSETS ARE SHOWN. ONE IS BASED ON SCALING FROM THE FEMA MAP WHICH SHOWS THE DOMINANT FLOW ALONG A LINE AT 27.5 DEGREES TO THE ALAMEDA ALIGNMENT, AND FIFTY FEET FROM THE S.W. CORNER OF THIS LOT. THE OTHER IS BASED UPON A BEST ESTIMATE OF THE THALWEG FROM THE CURRENT TOPOGRAPHIC MAP. BOTH OFFSETS ARE 198.4' FROM THE FEMA ALIGNMENT AND THE CURRENT TOPO LINE. AS CAN BE SEEN, THE 198.4' LINE FROM THE FEMA MAP SCALING FALLS OUTSIDE OF THE STRUCTURE, AND THE 198.4' LINE FROM THE TOPO GEOMETRY FALLS WITHIN THE STRUCTURE.

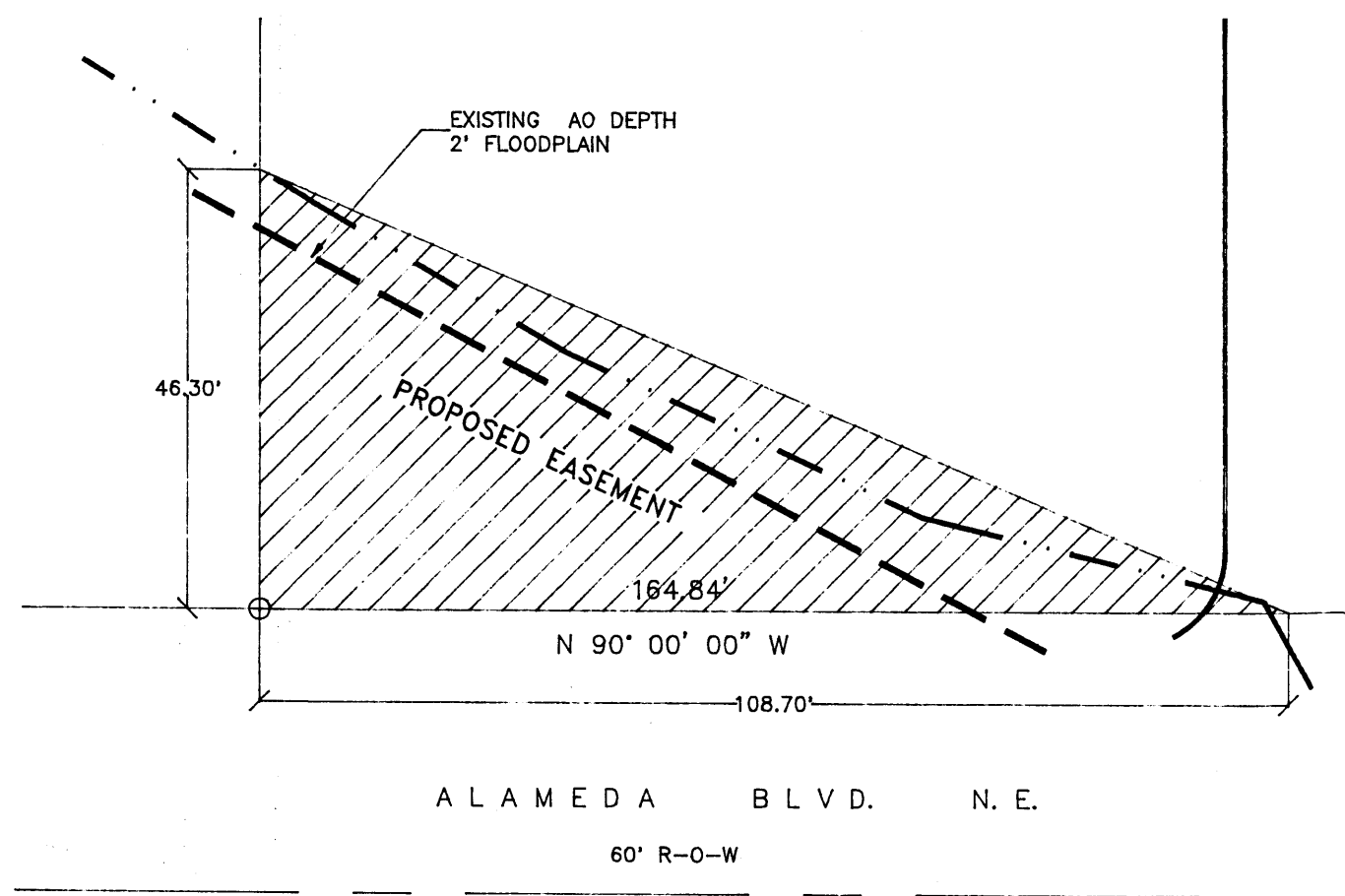
THE 3709 CFS PEAK Q 100 FOR THIS ARROYO HAS NOT BEEN CHANGED SINCE AMAFCA DIVERTED A SIGNIFICANT PORTION OF THE LA CUEVA ARROYO INTO THE NORTH DOMINGO BACA DAM. IN ADDITION, THE COUNTY IS CURRENTLY NEARING A DESIGN PHASE FOR A FOUR LANE UPGRADE OF ALAMEDA BLVD. FROM 1-25 EASTWARD TO EUBANK WHICH WILL DICTATE THE HARDENING OF THE APPROACH AND EXIT OF THE ARROYO ACROSS THE ALAMEDA R-O-W. THESE REASONS, COUPLED WITH THE BROAD NATURE OF THE FLOOD-PLAIN WITHIN THIS REACH WOULD APPEAR TO MAKE THE LOCATION OF THE PROPOSED STRUCTURE A PRUDENT CHOICE.

EGL:
THE EGL WAS COMPUTED AND PLOTTED BY SOLVING THE MANNING EQUATION, USING $n = 0.035$, $Q_0 = 750$ CFS, WIDTH = 40 X DEPTH, AND $s = 0.0302/7'$ AS MEASURED FROM THE THALWEG TOPO. USING THESE INPUTS, THE DEPTH IS 1.43' AND THE WIDTH IS 57.2 FEET FOR WHICH THE AVERAGE VELOCITY IS 8.17 FPS. FROM THIS, THE EGL IS 1.3 FT. ABOVE THE FLOWLINE, OR 2.73 FT. ABOVE THE THALWEG.

EASEMENT:
A DRAINAGE EASEMENT DEDICATED TO THE CITY OF ALBUQUERQUE WILL BE PREPARED.

SCOUR: 5/2/98

TO DETERMINE SCOUR DEPTH EQUATION 3.89 PAGE 3-90 OF THE SEDIMENT AND EROSION DESIGN GUIDE WAS USED. THE EQUATION IS $Y_s/Y_f = 0.73 + 0.14 B/F^2$ WHERE F_f WAS ASSUMED TO BE 1.5 AND Y_f IS 2' BASED UPON THE AO DEPTH OF 2' FROM THE FEMA MAP. USING THE ABOVE F_f AND Y_f , Y_s IS 3.44' OR 3.5'. THE BOTTOM OF THE FOOTINGS FROM THE TOPOGRAPHY BASED OFFSET SOUTHWARD SHOULD BE AT A MINIMUM ELEVATION OF 5538.5' MSL.



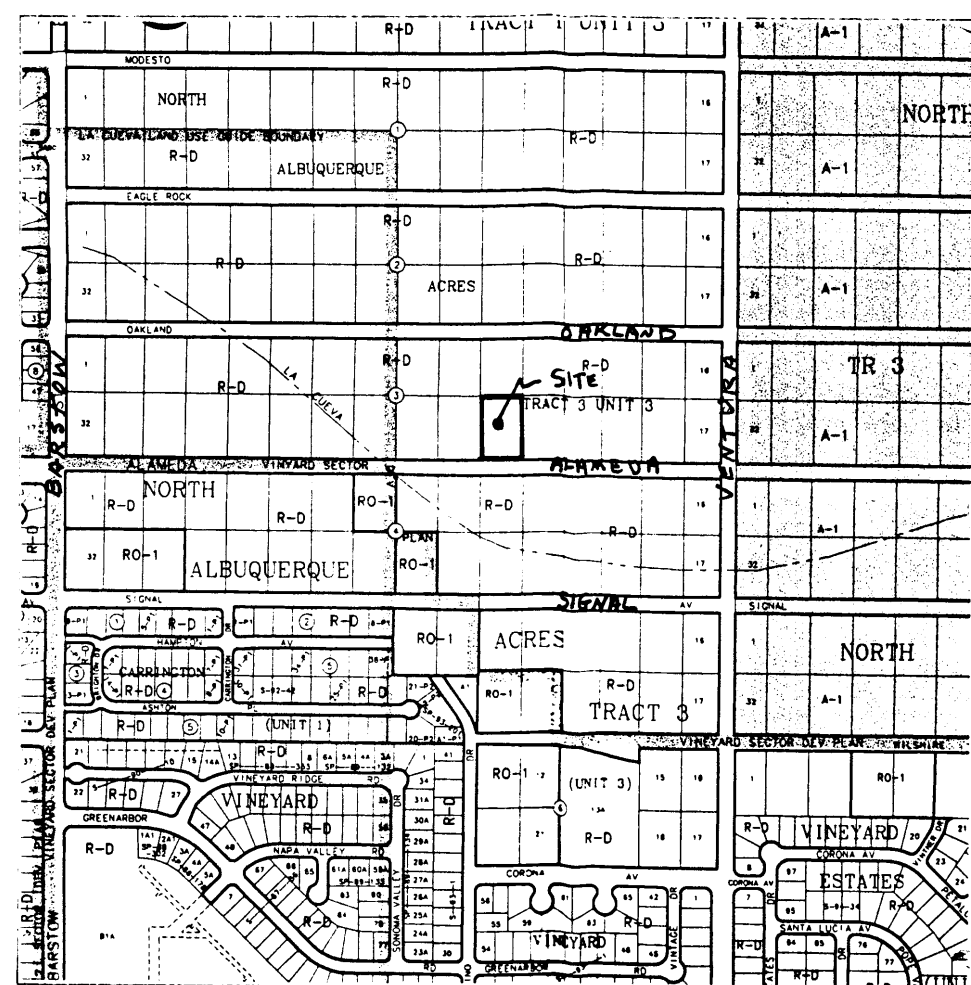
DETAIL OF PROPOSED DRAINAGE EASEMENT
TO CITY OF ALBUQUERQUE

FOOTING NOTE:

THE BOTTOM OF THE POURED CONCRETE FOOTINGS IN THE AREA INDICATED BELOW (COMPACTION NOTE) SHALL BE TO A MIN. ELEV. OF 5538.5' MSL, I.E. 3.5' MINIMUM DEPTH.

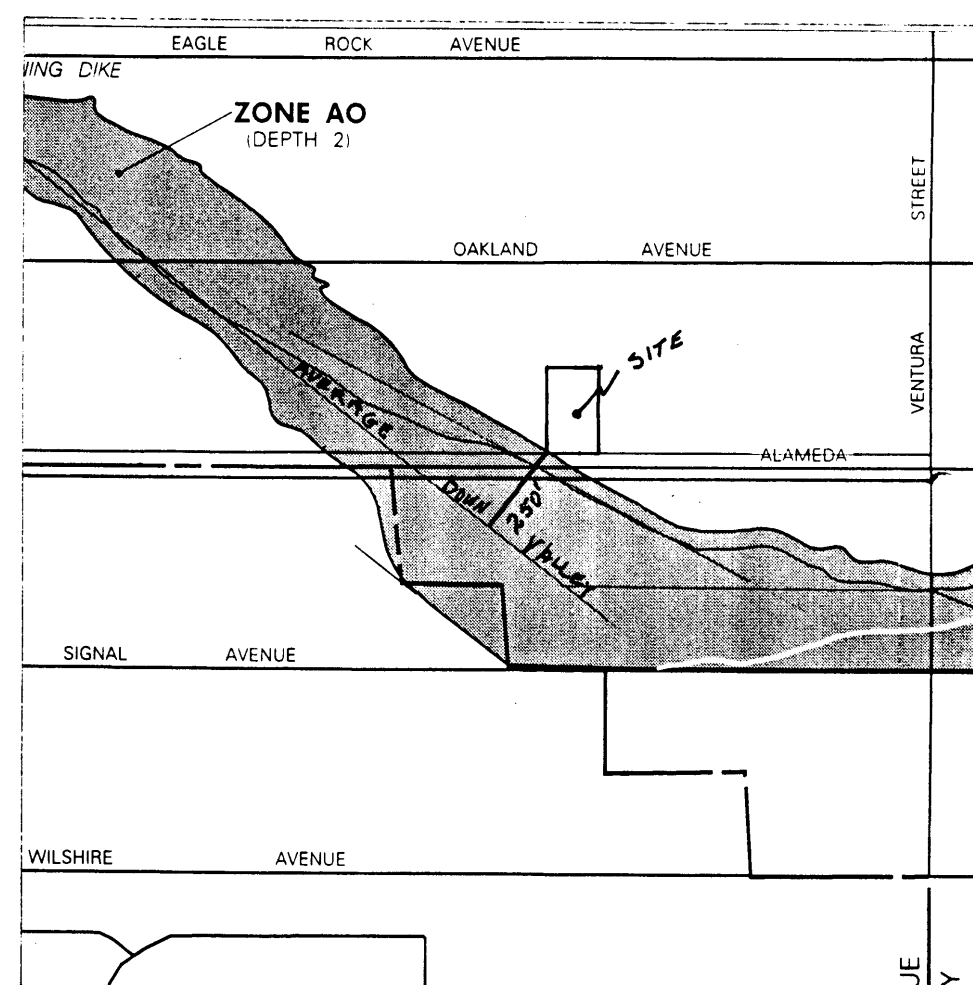
COMPACTION NOTE:

THE FOOTINGS SOUTH OF THE TOPOGRAPHY BASED OFFSET LINE WILL BE OVEREXCAVATED TO SIX (6') DEPTH. THE MATERIAL REMOVED WILL BE BACKFILLED IN 6" LIFTS WITH OPTIMUM MOISTURE CONTENT AND COMPACTED TO A MODIFIED PROCTOR DENSITY OF 95%.



LOCATION MAP C-20-Z

LEGAL DESCRIPTION: LOT 22, BLOCK 3, TRACT 3, UNIT 3
NORTH ALBUQUERQUE ACRES, ALBUQUERQUE, NEW MEXICO
ADDRESS: ALAMEDA BLVD., N.E.



FLOOD INSURANCE RATE MAP

PANEL NO. 35001 0141

DISCUSSION:

DEVELOPED HYDROLOGY:

THIS PROPOSED DEVELOPMENT INCLUDES 2429 S.F. OF IMPERVIOUS AREA (HOUSE, GARAGE, DRIVEPAD, AND PATIOS), AND 4110 S.F. OF GRAVEL DRIVEWAY. IT IS ASSUMED THAT 4000 S.F. OF LAWN AND GARDEN WILL BE DEVELOPED IN THE SHORT TERM. UNTIL RE-VEGETATION TAKES PLACE, 2000 S.F. OF DISTURBED SOIL WILL EXIST. THE ACTUAL RUNOFF WILL DECREASE AFTER NATIVE VEGETATION HAS RE-ESTABLISHED.

IN ACCORDANCE WITH DPM PROCEDURES, THE FOLLOWING TABLE GIVES THE MAXIMUM 100 YEAR DISCHARGE FOR THIS DEVELOPMENT IN ZONE 3 AND FOR A TIME OF CONCENTRATION OF 12 MIN.

TABLE			
TREATMENT	AREA (AC)	MAX RUNOFF (CFS/AC)	MAX Q (CFS)
A	0.598	1.87	1.12
B	0.092	2.68	0.25
C	0.140	3.45	0.48
D	0.058	5.02	0.28
TOTAL AREA	0.888 AC.	TOTAL 100 YR. Q	2.13 CFS = 2.40 CFS/AC

DESITE FLOWS:

THERE ARE NO CONCENTRATED OFFSITE FLOWS TO OR THROUGH THIS LOT. ALL OF THE OFFSITE DRAINAGE IS SHEET FLOW. THIS SHEET FLOW WILL CONTINUE UNABATED ACROSS THIS LOT AFTER DEVELOPMENT.

FLOODPLAIN AND EROSION OFFSET STATUS:

THE FEMA FIRM MAP 141 SHOWS THE S.W. CORNER OF THIS LOT IS IN THE FLOODPLAIN, AO DEPTH 2 FEET. THIS LOCATION IS SHOWN USING A RECENT 1 FOOT TOPO OF THIS LOT. THE FLOOD PLAIN EDGE EXTENDS FROM A POINT ON THE SOUTH PROPERTY LINE 75 FEET FROM THE S. W. CORNER TO A POINT ON THE WEST PROPERTY LINE 43 FEET FROM THE S. W. CORNER. NO CHANGES ARE PLANNED FOR THIS AREA. FOR THE EROSION ANALYSIS, THE METHODS OUTLINED IN CHAPTER 3 OF THE SEDIMENT AND EROSION DESIGN GUIDE ARE USED. THE BEST AVAILABLE Q100 FOR THE LA CUEVA ARROYO IS 3700 CFS. THIS IS PROBABLY HIGH, SINCE AMAFCA HAS DIVERTED ONE STEM OF THIS ARROYO INTO THE NORTH DOMINGO BACA DAM AT BROWNING AND SIGNAL, SUBSEQUENT TO THE HUSTON-BOHANNON STUDY. ON SITE INSPECTION OF THIS AREA SHOWS THE CURRENT DOMINANT CHANNEL, AT THE SOUTH AREA OF THE FLOODPLAIN. THIS IS HISTORICALLY TRUE, SINCE THE TRAINING DIKE ON THE SOUTH WAS CONSTRUCTED TO PREVENT EXCLUSIONS WHICH HAD OCCURRED TO THE NORTH DOMINGO BACA ARROYO. THE AVERAGE DOWN-VALLEY DIRECTION WAS ASSUMED PARALLEL TO THE NORTHWESTERLY LEG OF THE TRAINING DIKE, AND APPROXIMATELY IN THE CENTER OF THE BROAD FLOODPLAIN.

3.77 USING $Q_0 = 0.2 Q_{100}$, WHERE D IS DOMINANT FLOW, I.E., 10 YEAR

$Q_0 = (0.2) (3700) = 740$ CFS

3.78 $W_0 = 4.6 Q_0^{0.4} = 64.6'$

3.81 $\Delta_{max} = [0.92 + 4.6 \log(Q_0)] Q_0^{0.4}$ FOR 200 CFS $< Q_0 < 2100$ CFS

$\Delta_{max} = 198.4'$

THE PERPENDICULAR DISTANCE FROM THE AVERAGE DOWN-VALLEY DIRECTION TO THE LOT CORNER IS 250 FEET. THIS IMPLIES THAT FOR THE EROSION OFFSET OF 198.4' $\pm 1/2$ $W_0 = 230.7'$, THE LIMITS OF EROSION ARE THE SAME AS THE 100 YEAR FLOODPLAIN. THIS IS NOT UNUSUAL FOR A BROAD SHALLOW ARROYO SUCH AS THIS REACH OF THE LA CUEVA. SINCE THE CLOSEST POINT OF THE DWELLING UNIT IS 135' HORIZONTAL AND 9' VERTICAL FROM THE FLOOD PLAIN, NO FOOTING HARDENING IS WARRANTED OR RECOMMENDED.

ACCESS:

THE ACCESS IS VIA ALAMEDA BLVD. FROM VENTURA OR BARSTOW. THIS IS AN AREA OF RECENT CITY OF ALBUQUERQUE ANNEXATION, AND ALAMEDA IN THIS STRETCH IS AN UNIMPROVED TRAIL.

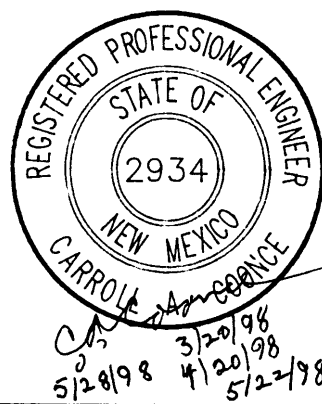
WATER AND SEWER:

CITY UTILITIES ARE UNAVAILABLE IN THIS SECTION OF ALAMEDA BLVD. THE LOCATION FOR AN ON-SITE WATER WELL AND LEACH FIELD ARE SHOWN ON THIS PLAN.

ON 5/2/98, 1998 THIS SITE WAS INSPECTED AND FOUND TO BE IN SUBSTANTIAL COMPLIANCE WITH THIS APPROVED DRAINAGE AND GRADING PLAN.

C. A. COONCE N.M.P.E. # 2934 DATE

C20/D20



C.A. COONCE & ASSOC.

ENVIRONMENTAL, WATER RESOURCES, & SANITARY CONSULTING ENGINEERS
12324 PINERIDGE N.E. ALBUQUERQUE, N.M. 87112 PH (505) 296-1089

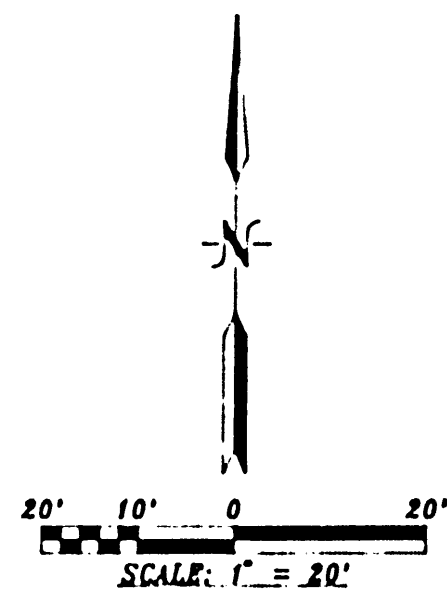
TITLE DRAINAGE AND GRADING PLAN
PROJECT RESIDENCE FOR ROBERT AND FELICIA CLARK

DATE 03/20/98 REVISED 5/2/98
DRAWN LSC 04/18/98
CHECKED CAC 5/2/98

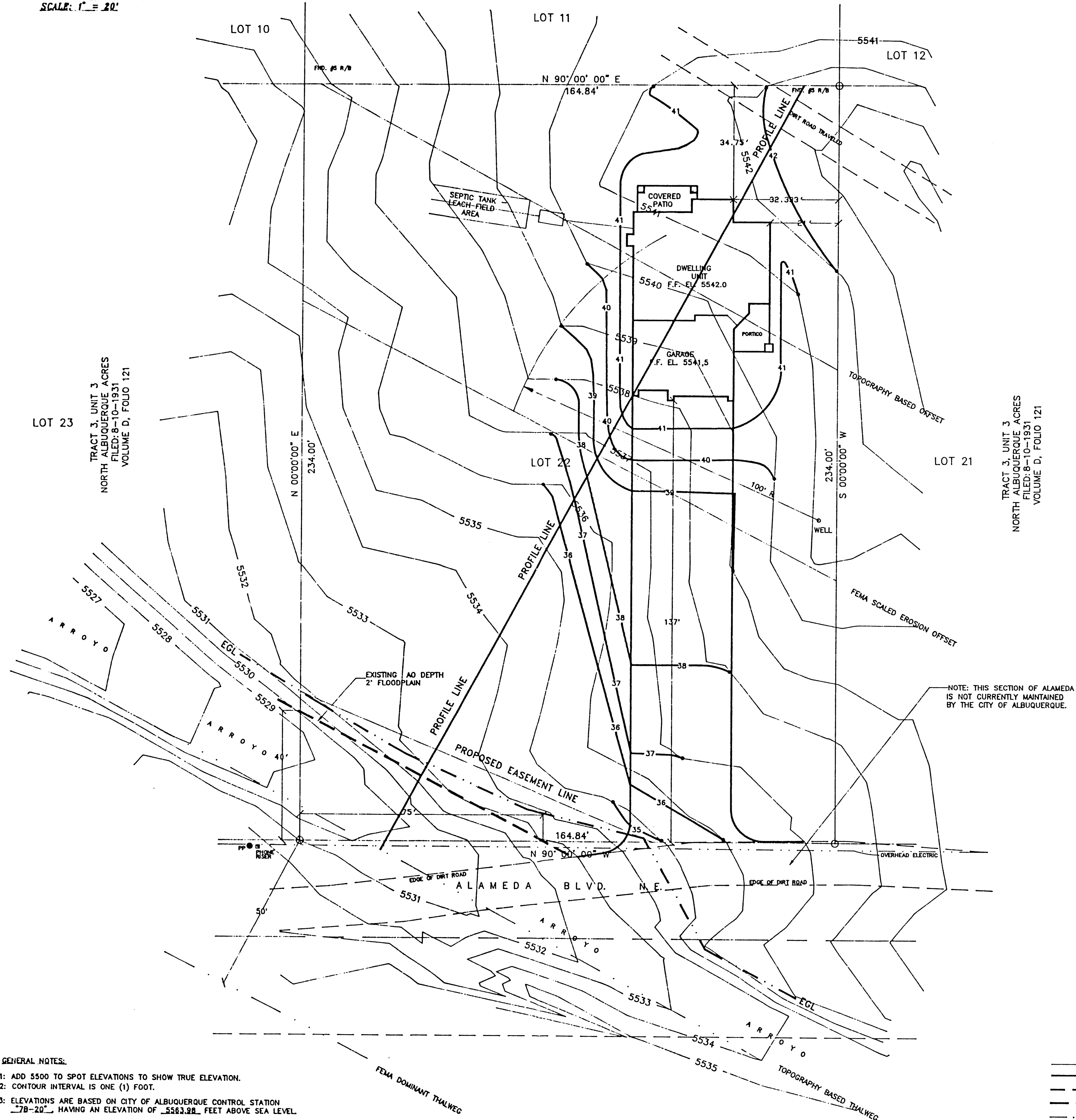
SHEET 1 of 1

PLAT OF TOPOGRAPHY
OF
LOT 22, BLOCK 3
TRACT 3, UNIT 3
NORTH ALBUQUERQUE ACRES
CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO
FEBRUARY, 1998

TRACT 3, UNIT 3
NORTH ALBUQUERQUE ACRES
FILED: 8-10-1931
VOLUME D, FOLIO 121

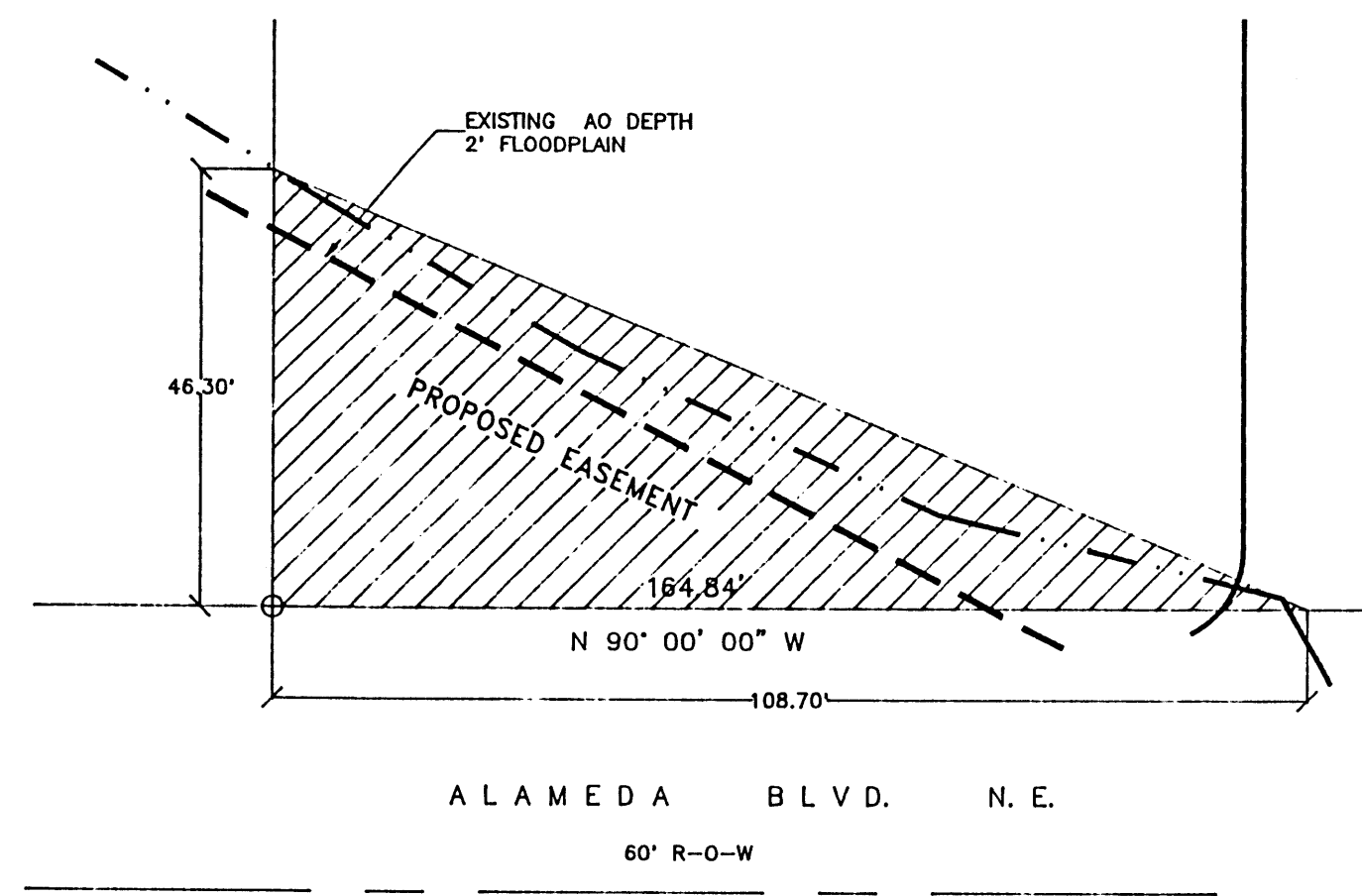
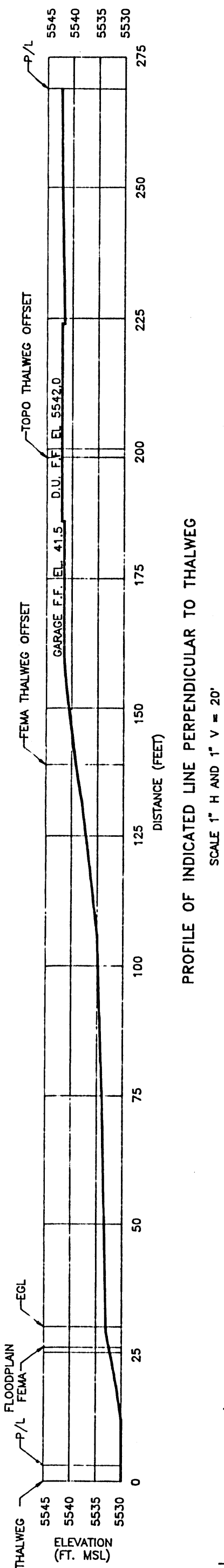


LOT 23
TRACT 3, UNIT 3
NORTH ALBUQUERQUE ACRES
FILED: 8-10-1931
VOLUME D, FOLIO 121

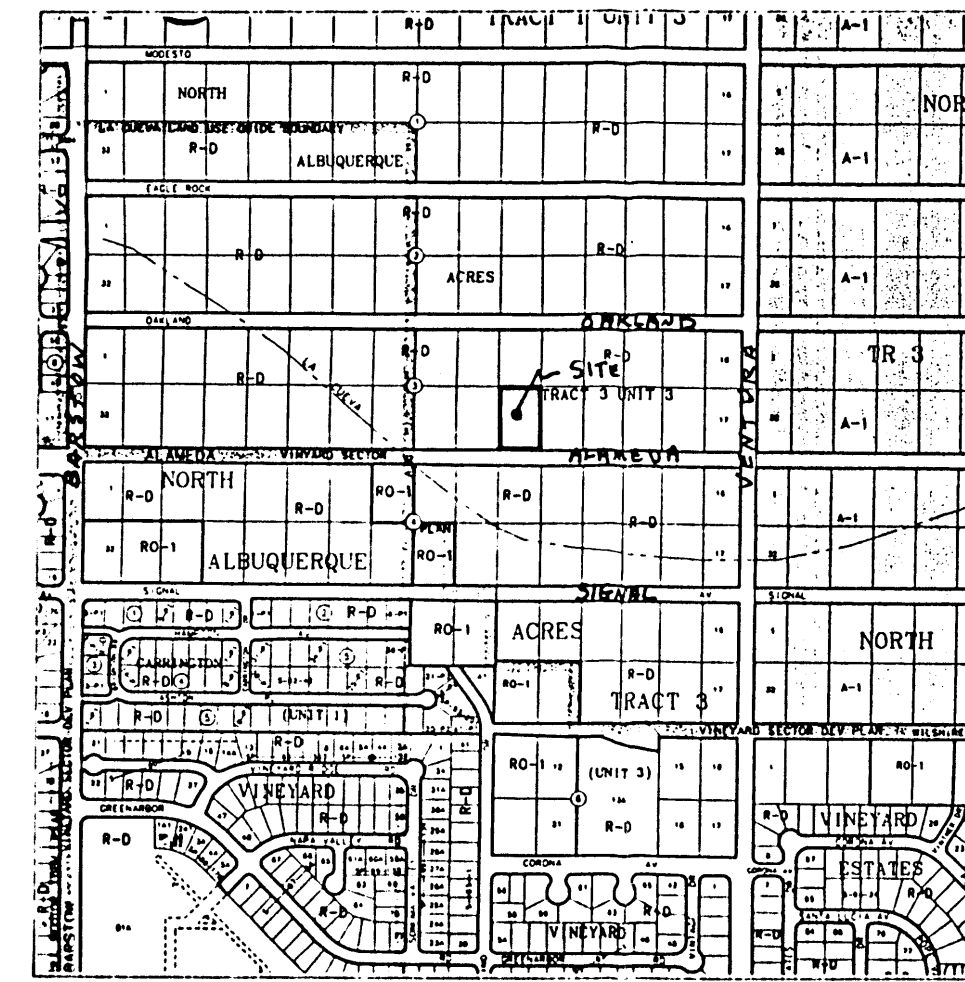


- GENERAL NOTES:
- 1: ADD 5500 TO SPOT ELEVATIONS TO SHOW TRUE ELEVATION.
 - 2: CONTOUR INTERVAL IS ONE (1) FOOT.
 - 3: ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE CONTROL STATION 77B-20, HAVING AN ELEVATION OF 5582.38 FEET ABOVE SEA LEVEL.
 - 4: UTILITIES SHOWN HEREON ARE IN THEIR APPROXIMATE LOCATION BASED ONLY ON ABOVE GROUND EVIDENCE FOUND IN THE FIELD AND AS-BUILT INFORMATION PROVIDED BY THE CLIENT. UTILITIES SHOWN HEREON, WHETHER INDICATED AS ABANDONED OR NOT, SHALL BE VERIFIED BY OTHERS FOR EXACT LOCATION AND/OR DEPTH PRIOR TO EXCAVATION OR DESIGN CONSIDERATIONS.
 - 5: THIS IS NOT A BOUNDARY SURVEY. BEARINGS ARE ASSUMED, DISTANCES AND FOUND PROPERTY CORNERS ARE FOR INFORMATIONAL PURPOSES ONLY.

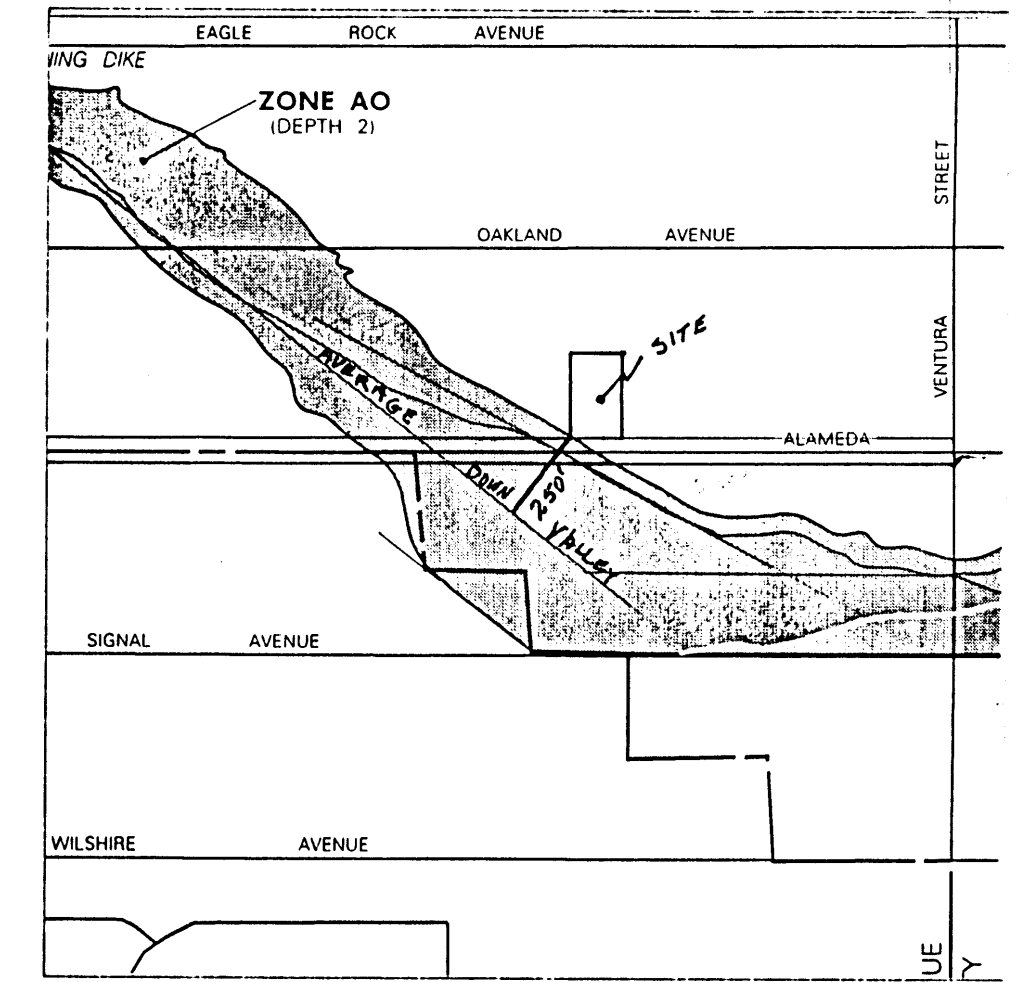
- LEGEND
- 5000 — EXISTING CONTOURS
 - 5000 — PROPOSED CONTOURS
 - FLOODPLAIN
 - EGL
 - FLOWLINE



DETAIL OF PROPOSED DRAINAGE EASEMENT
TO CITY OF ALBUQUERQUE



LOCATION MAP C-20-Z
LEGAL DESCRIPTION: LOT 22, BLOCK 3, TRACT 3, UNIT 3
NORTH ALBUQUERQUE ACRES, ALBUQUERQUE, NEW MEXICO
ADDRESS: ALAMEDA BLVD., N.E.



FLOOD INSURANCE RATE MAP
PANEL NO. 35001 0141

DISCUSSION:

DEVELOPED HYDROLOGY:

THIS PROPOSED DEVELOPMENT INCLUDES 2429 S.F. OF IMPERVIOUS AREA (HOUSE, GARAGE, DRIVEPAD, AND PATIOS), AND 4110 S.F. OF GRAVEL DRIVEWAY. IT IS ASSUMED THAT 4000 S.F. OF LAWN AND GARDEN WILL BE DEVELOPED. IN THE SHORT TERM, UNTIL RE-VEGETATION TAKES PLACE, 2000 S.F. OF DISTURBED SOIL WILL EXIST. THE ACTUAL RUNOFF WILL DECREASE AFTER NATIVE VEGETATION HAS RE-ESTABLISHED.

IN ACCORDANCE WITH DPM PROCEDURES, THE FOLLOWING TABLE GIVES THE MAXIMUM 100 YEAR DISCHARGE FOR THIS DEVELOPMENT IN ZONE 3 AND FOR A TIME OF CONCENTRATION OF 12 MIN.

TREATMENT	AREA (AC)	MAX RUNOFF (CFS/AC)	MAX Q (CFS)
A	0.598	1.87	1.12
B	0.092	2.68	0.25
C	0.140	3.45	0.48
D	0.056	5.02	0.28
TOTAL AREA	0.886 AC	TOTAL 100 YR. Q	2.13 CFS = 2.40 CFS/ AC

DEFSITE FLOWS:

THERE ARE NO CONCENTRATED OFFSITE FLOWS TO OR THROUGH THIS LOT. ALL OF THE OFFSITE DRAINAGE IS SHEET FLOW. THIS SHEET FLOW WILL CONTINUE UNABATED ACROSS THIS LOT AFTER DEVELOPMENT.

FLOODPLAIN AND EROSION OFFSET STATUS:

THE FEMA FIRM MAP 141 SHOWS THE S.W. CORNER OF THIS LOT IS IN THE FLOODPLAIN, AO DEPTH 2 FEET. THIS LOCATION IS SHOWN USING A RECENT 1 FOOT TOPO OF THIS LOT. THE FLOOD PLAIN EDGE EXTENDS FROM A POINT ON THE SOUTH PROPERTY LINE 75 FEET FROM THE S. W. CORNER TO A POINT ON THE WEST PROPERTY LINE 43 FEET FROM THE S. W. CORNER. NO CHANGES ARE PLANNED FOR THIS AREA. FOR THE EROSION ANALYSIS, THE METHODS OUTLINED IN CHAPTER 3 OF THE SEDIMENT AND EROSION DESIGN GUIDE ARE USED. THE BEST AVAILABLE Q100 FOR THE LA CUEVA ARROYO IS 3700 CFS. THIS IS PROBABLY HIGH, SINCE AMAFCA HAS DIVERTED ONE STEM OF THIS ARROYO INTO THE NORTH DOMINGO BACA DAM AT BROWNING AND SIGNAL SUBSEQUENT TO THE HUSTON-BOHANNON STUDY. ON SITE INSPECTION OF THIS AREA SHOWS THE CURRENT DOMINANT CHANNEL AT THE SOUTH AREA OF THE FLOODPLAIN. THIS IS HISTORICALLY TRUE, SINCE THE TRAINING DIKE ON THE SOUTH WAS CONSTRUCTED TO PREVENT EROSIONS WHICH HAD OCCURRED TO THE NORTH DOMINGO BACA ARROYO. THE AVERAGE DOWN-VALLEY DIRECTION WAS ASSUMED PARALLEL TO THE NORTHWESTERLY LEG OF THE TRAINING DIKE, AND APPROXIMATELY IN THE CENTER OF THE BROAD FLOODPLAIN.

$$3.77 \text{ USING } Q_0 = 0.2 Q_{100}, \text{ WHERE } D \text{ IS DOMINANT FLOW, I.E., 10 YEAR}$$

$$Q_0 = (0.2) (3700) = 740 \text{ CFS}$$

$$3.78 \text{ } W_0 = 4.6 Q_0^{0.4} = 64.6'$$

$$3.81 \text{ } \Delta_{MAX} = [0.92 + 4.6 \log(Q_0)] Q_0^{0.4} \text{ FOR } 200 \text{ CFS} < Q_0 < 2100 \text{ CFS}$$

$$\Delta_{MAX} = 198.4'$$

THE PERPENDICULAR DISTANCE FROM THE AVERAGE DOWN-VALLEY DIRECTION TO THE LOT CORNER IS 250 FEET. THIS IMPLIES THAT FOR THE EROSION OFFSET OF 198.4' + 1/2 W₀ = 230.7', THE LIMITS OF EROSION ARE THE SAME AS THE 100 YEAR FLOODPLAIN. THIS IS NOT UNUSUAL FOR A BROAD SHALLOW ARROYO SUCH AS THIS REACH OF THE LA CUEVA. SINCE THE CLOSEST POINT OF THE DWELLING UNIT IS 135' HORIZONTAL AND 9' VERTICAL FROM THE FLOOD PLAIN, NO FOOTING HARDENING IS WARRANTED OR RECOMMENDED.

ACCESS: THE ACCESS IS VIA ALAMEDA BLVD. FROM VENTURA OR BARSTOW. THIS IS AN AREA OF RECENT CITY OF ALBUQUERQUE ANNEXATION, AND ALAMEDA IN THIS STRETCH IS AN UNIMPROVED TRAIL.

WATER AND SEWER: CITY UTILITIES ARE UNAVAILABLE IN THIS SECTION OF ALAMEDA BLVD. THE LOCATION FOR AN ON-SITE WATER WELL AND LEACH FIELD ARE SHOWN ON THIS PLAN.

C20/D20



C.A. COONCE & ASSOC.

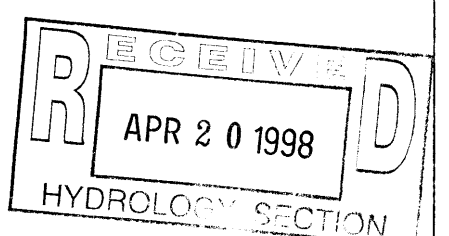
ENVIRONMENTAL, WATER RESOURCES, & SANTARY CONSULTING ENGINEERS
12324 PINERIDGE N.E. ALBUQUERQUE, N.M. 87112 PH (505) 298-1089

TITLE DRAINAGE AND GRADING PLAN

PROJECT RESIDENCE FOR ROBERT AND FELICIA CLARK

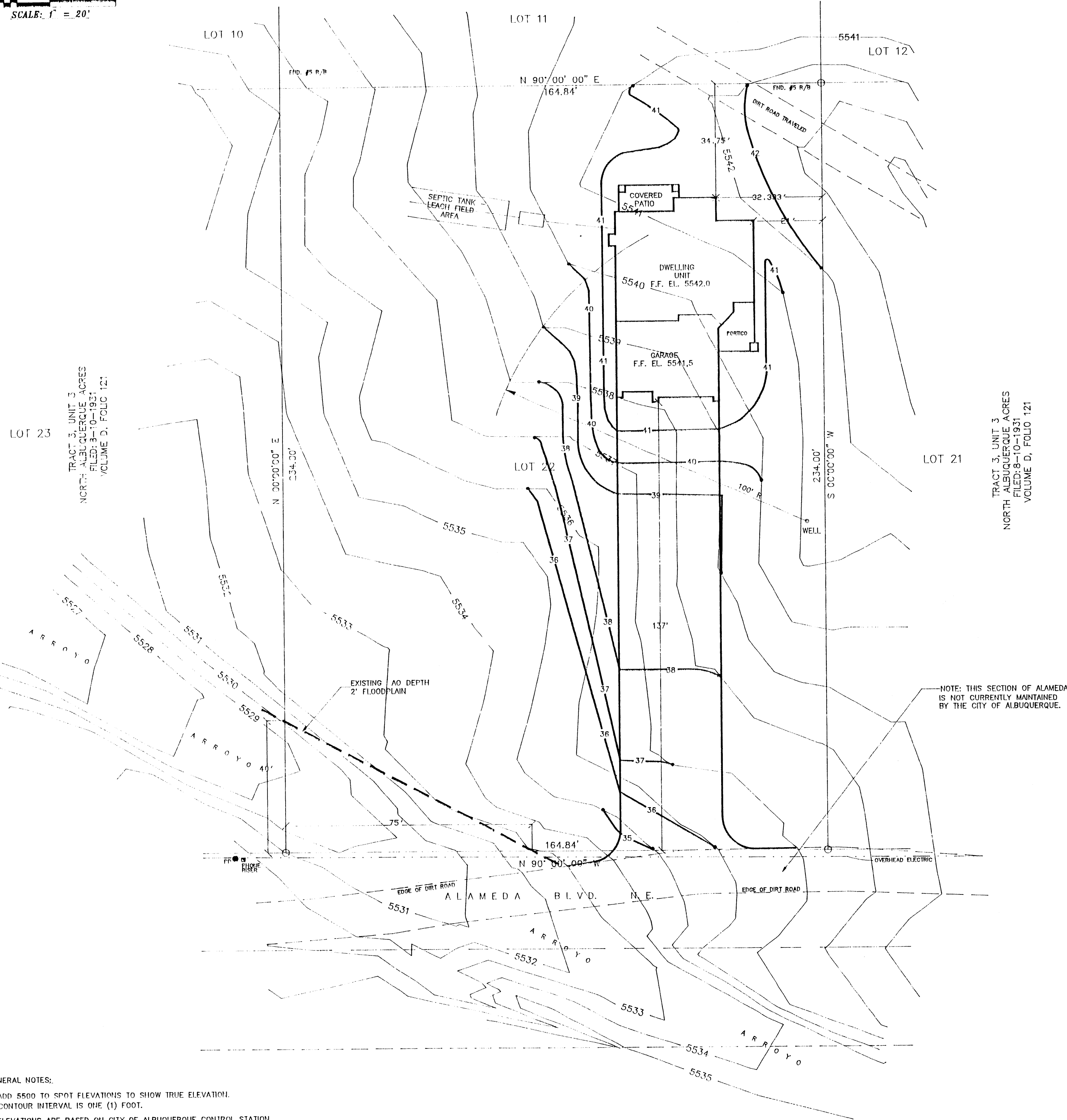
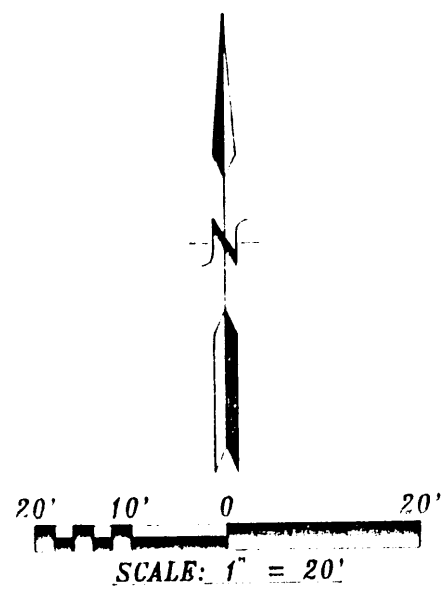
DATE 03/20/98 REVISED
DRAWN LSC 04/18/98
CHECKED CAC

SHEET 1 of 1

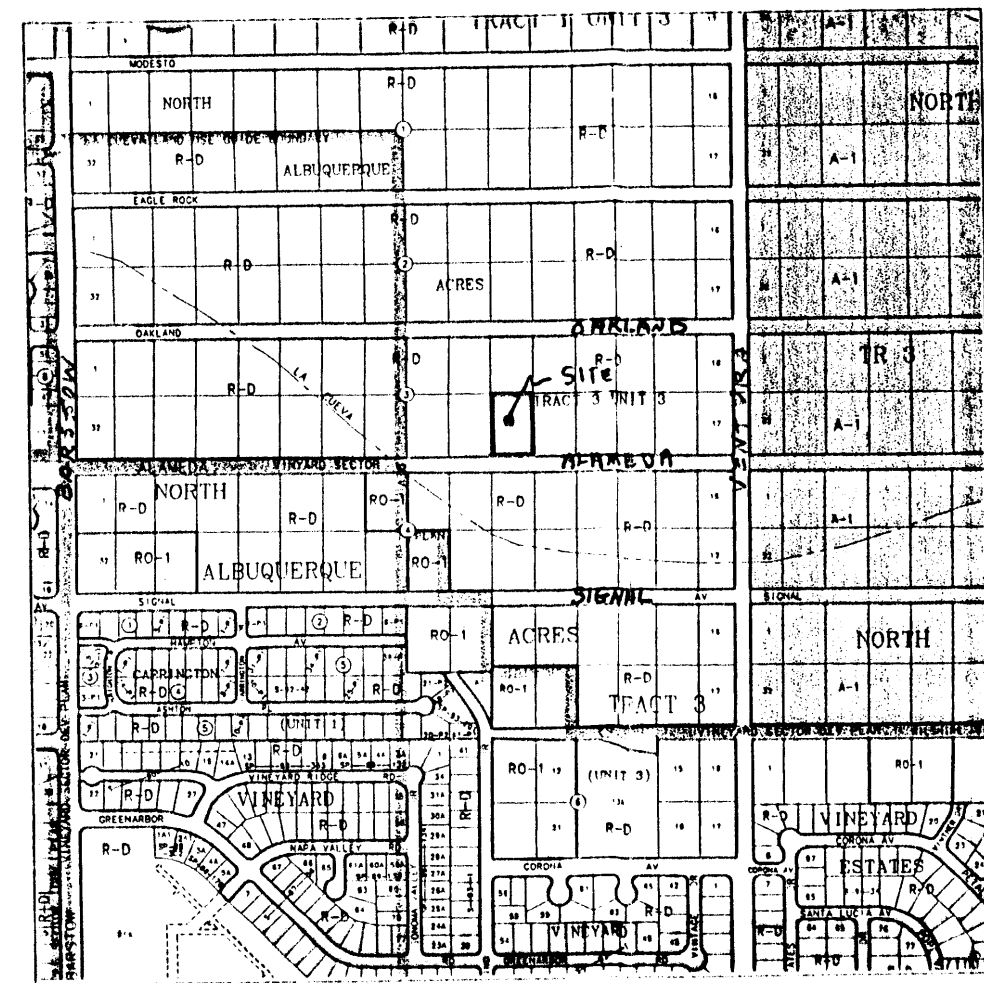


PLAT OF TOPOGRAPHY
OF
LOT 22, BLOCK 3
TRACT 3, UNIT 3
NORTH ALBUQUERQUE ACRES
CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO
FEBRUARY, 1998

TRACT 3, UNIT 3
NORTH ALBUQUERQUE ACRES
FILED: 8-10-1931
VOLUME D, FOLIO 121

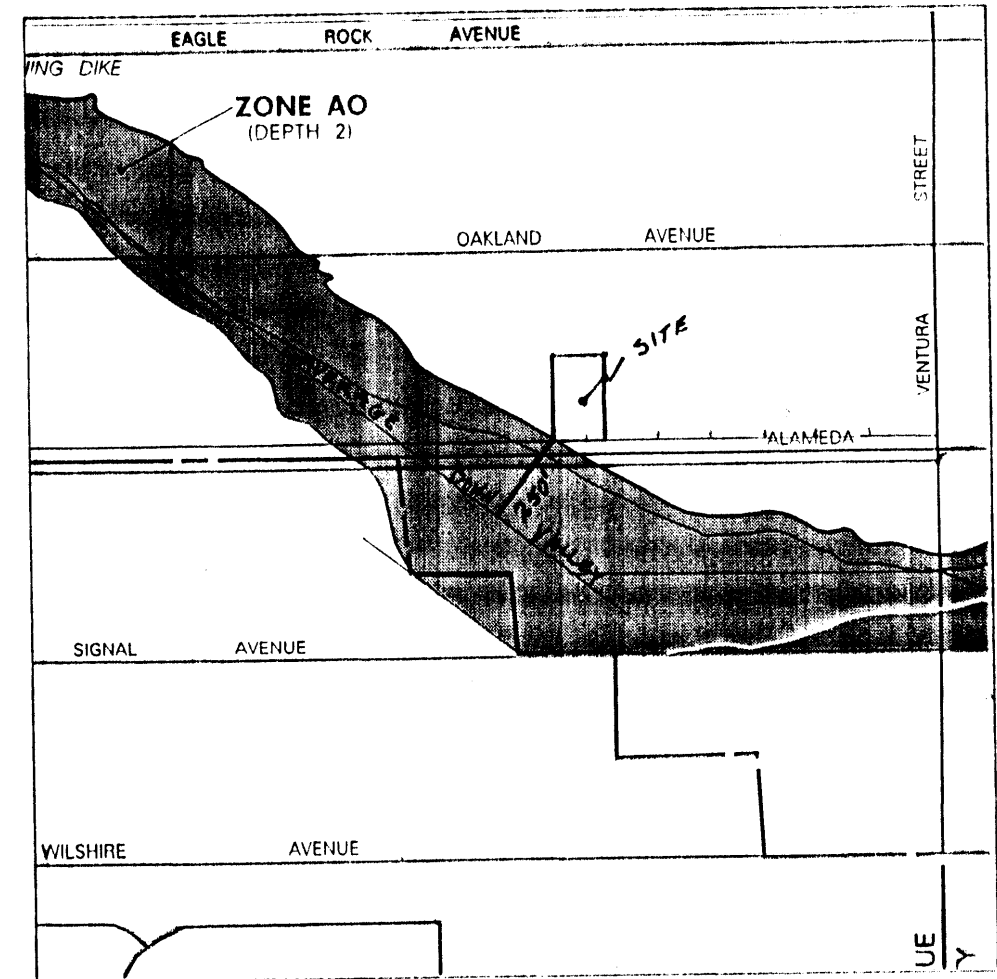


- GENERAL NOTES:
- 1: ADD 5500 TO SPOT ELEVATIONS TO SHOW TRUE ELEVATION.
 - 2: CONTOUR INTERVAL IS ONE (1) FOOT.
 - 3: ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE CONTROL STATION 78-20, HAVING AN ELEVATION OF 5563.98 FEET ABOVE SEA LEVEL.
 - 4: UTILITIES SHOWN HEREON ARE IN THEIR APPROXIMATE LOCATION BASED ONLY ON ABOVE GROUND EVIDENCE FOUND IN THE FIELD AND AS-BUILT INFORMATION PROVIDED BY THE CLIENT. UTILITIES SHOWN HEREON, WHETHER INDICATED AS ABANDONED OR NOT, SHALL BE VERIFIED BY OTHERS FOR EXACT LOCATION AND/OR DEPTH PRIOR TO EXCAVATION OR DESIGN CONSIDERATIONS.
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LOCATION MAP C-20-2

LEGAL DESCRIPTION: LOT 22, BLOCK 3, TRACT 3, UNIT 3
NORTH ALBUQUERQUE ACRES, ALBUQUERQUE, NEW MEXICO
ADDRESS: ALAMEDA BLVD., N.E.



FLOOD INSURANCE RATE MAP

PANEL NO. 35001 0141

DISCUSSION:

DEVELOPED HYDROLOGY:

THIS PROPOSED DEVELOPMENT INCLUDES 2390 S.F. OF IMPERVIOUS AREA (HOUSE, GARAGE, DRIVEWAY, AND PATIOS), AND 4110 S.F. OF GRAVEL DRIVEWAY. IT IS ASSUMED THAT 2000 S.F. OF LAWN AND GARDEN WILL BE DEVELOPED. IN THE SHORT TERM, UNTIL RE-VEGETATION TAKES PLACE, 2000 S.F. OF DISTURBED SOIL WILL EXIST. THE ACTUAL RUNOFF WILL DECREASE AFTER NATIVE VEGETATION HAS RE-ESTABLISHED.

IN ACCORDANCE WITH DPM PROCEDURES, THE FOLLOWING TABLE GIVES THE MAXIMUM 100 YEAR DISCHARGE FOR THIS DEVELOPMENT IN ZONE 3 AND FOR A TIME OF CONCENTRATION OF 12 MIN.

TABLE				
TREATMENT	AREA (AC)	MAX RUNOFF (CFS/AC)	MAX Q (CFS)	
A	0.692	1.87	1.29	
B	0.046	2.88	0.12	
C	0.094	3.45	0.32	
D	0.054	5.02	0.27	
TOTAL AREA	0.886 AC.	TOTAL 100 YR. Q	2.00 CFS = 2.26 CFS/AC	

OFFSITE FLOWS:

THERE ARE NO CONCENTRATED OFFSITE FLOWS TO OR THROUGH THIS LOT. ALL OF THE OFFSITE DRAINAGE IS SHEET FLOW. THIS SHEET FLOW WILL CONTINUE UNABATED ACROSS THIS LOT AFTER DEVELOPMENT.

FLOODPLAIN AND EROSION OFFSET STANDS: THE FEMA FIRM MAP 141 SHOWS THE S.W. CORNER OF THIS LOT IS IN THE FLOODPLAIN, AO DEPTH 2 FEET. THIS LOCATION IS SHOWN USING A RECENT 1 FOOT TOPO OF THIS LOT. THE FLOOD PLAIN EDGE EXTENDS FROM A POINT ON THE SOUTH PROPERTY LINE 75 FEET FROM THE S. W. CORNER TO A POINT ON THE WEST PROPERTY LINE 43 FEET FROM THE S. W. CORNER. NO CHANGES ARE PLANNED FOR THIS AREA. FOR THE EROSION ANALYSIS, THE METHODS OUTLINED IN CHAPTER 3 OF THE SEDIMENT AND EROSION DESIGN GUIDE ARE USED. THE BEST AVAILABLE 0100 FOR THE LA CUEVA ARROYO IS 3700 CFS. THIS IS PROBABLY HIGH, SINCE AMAFCA HAS DIVERTED ONE STEM OF THIS ARROYO INTO THE NORTH DOMINGO BACA DAM AT BROWNING AND SIGNAL SUBSEQUENT TO THE HUSTON-BOHANNON STUDY.

ON SITE INSPECTION OF THIS AREA SHOWS THE CURRENT DOMINANT CHANNEL AT THE SOUTH AREA OF THE FLOODPLAIN. THIS IS HISTORICALLY TRUE. SINCE THE TRAINING DIKE ON THE SOUTH WAS CONSTRUCTED TO PREVENT EVULSIONS WHICH HAD OCCURRED TO THE NORTH DOMINGO BACA ARROYO. THE AVERAGE DOWN-VALLEY DIRECTION WAS ASSUMED PARALLEL TO THE NORTHWESTERLY LEG OF THE TRAINING DIKE, AND APPROXIMATELY IN THE CENTER OF THE BROAD FLOODPLAIN.

3.77 USING $Q_0 = 0.2 Q_{100}$, WHERE D IS DOMINANT FLOW, I.E., 10 YEAR
 $Q_0 = (0.2) (3700) = 740$ CFS
3.78 $W_0 = 4.6 Q_0^{0.4} = 64.6'$
3.81 $\Delta_{MAX} = [0.92 + 4.6 \log(Q_0)] Q_0^{0.4}$ FOR 200 CFS < Q_0 < 2100 CFS
 $\Delta_{MAX} = 198.4'$

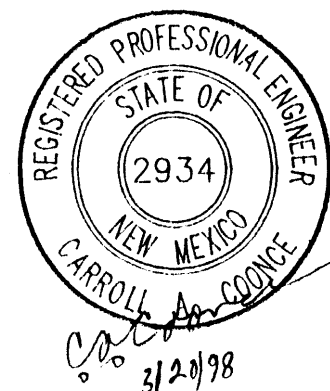
THE PERPENDICULAR DISTANCE FROM THE AVERAGE DOWN-VALLEY DIRECTION TO THE LOT CORNER IS 250 FEET. THIS IMPLIES THAT FOR THE EROSION OFFSET OF $198.4 + 1/2 W_0 = 230.7'$, THE LIMITS OF EROSION ARE THE SAME AS THE 100 YEAR FLOODPLAIN. THIS IS NOT UNUSUAL FOR A BROAD SHALLOW ARROYO SUCH AS THIS REACH OF THE LA CUEVA. SINCE THE CLOSEST POINT OF THE DWELLING UNIT IS 135' HORIZONTAL AND 9' VERTICAL FROM THE FLOOD PLAIN, NO FOOTING HARDENING IS WARRANTED OR RECOMMENDED.

ACCESS: THE ACCESS IS VIA ALAMEDA BLVD. FROM VENTURA OR BARSTOW. THIS IS AN AREA OF RECENT CITY OF ALBUQUERQUE ANNEXATION, AND ALAMEDA IN THIS STRETCH IS AN UNIMPROVED TRAIL.

WATER AND SEWER: CITY UTILITIES ARE UNAVAILABLE IN THIS SECTION OF ALAMEDA BLVD. THE LOCATION FOR AN ON-SITE WATER WELL AND LEACH FIELD ARE SHOWN ON THIS PLAN.

or
 $CSP = D_{max} + 5W_0$

$Q_{100} = 3709 @ Ventura$



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TITLE DRAINAGE AND GRADING PLAN

PROJECT RESIDENCE FOR ROBERT AND FELICIA CLARK

DATE 03/20/98 REVISED
DRAWN LSC
CHECKED CAC
SHEET 1 of 1