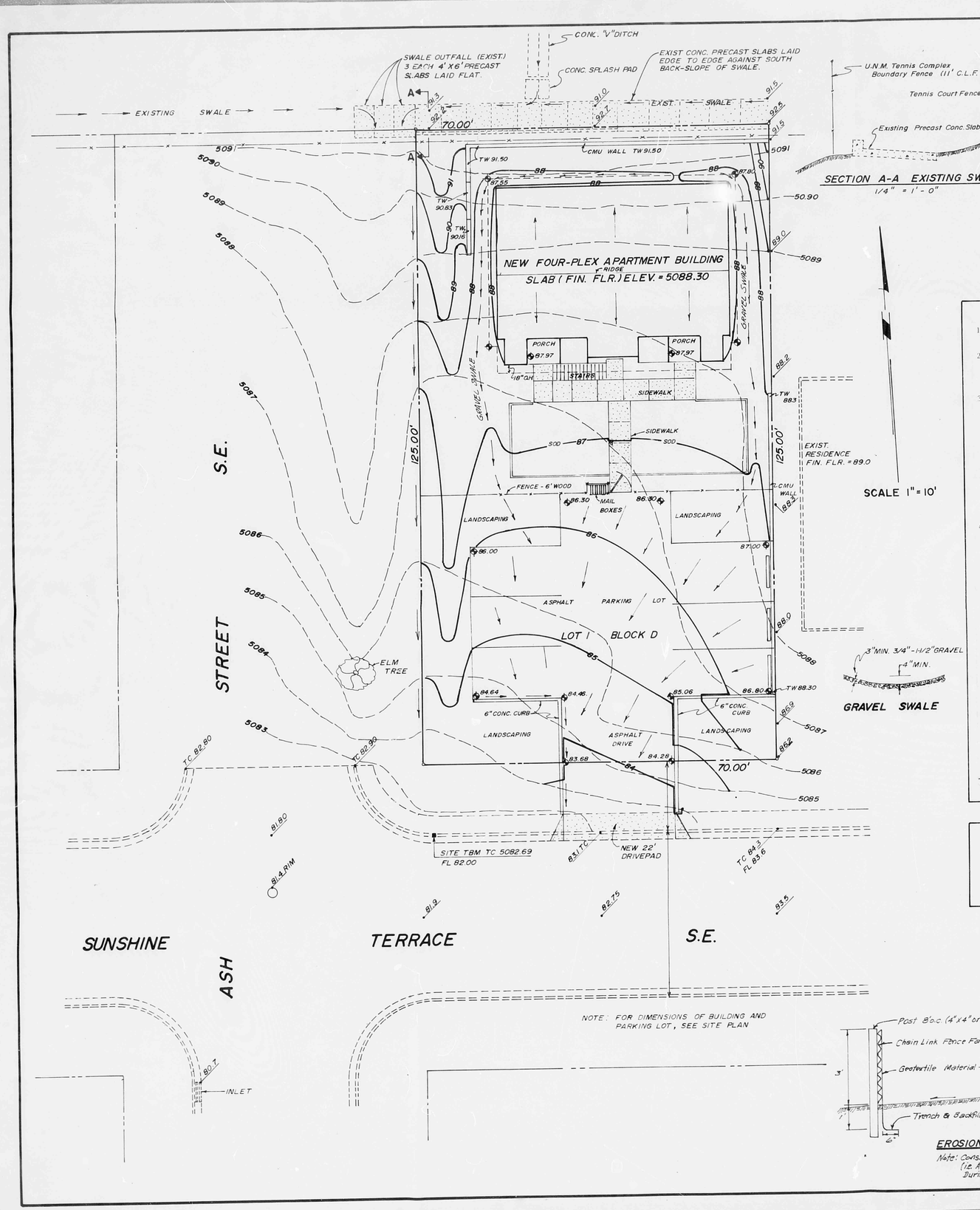
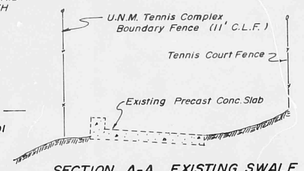
HYDROLOGY

L15/D24
ONE PLAN

L15-D24

1 PLAN

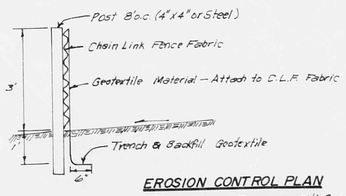




SECTION A-A EXISTING SWALE
1/4" = 1' - 0"

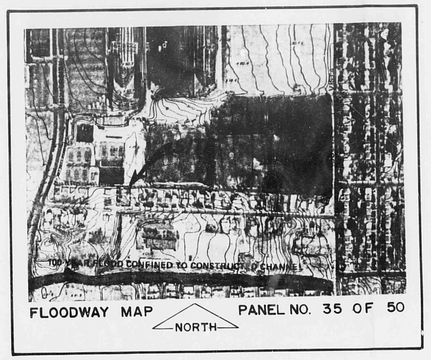
SCALE 1" = 10'

GRAVEL SWALE

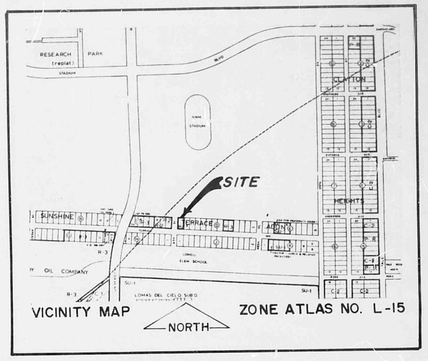


EROSION CONTROL PLAN

Note: Construct Temporary Silt Fence At Lower Side of Lot (i.e. At S. Prop. Line) To Intercept and De-Silt all Runoff During Construction.



FLOODWAY MAP PANEL NO. 35 OF 50
NORTH



VICINITY MAP ZONE ATLAS NO. L-15
NORTH

DRAINAGE NOTES

1. RELATION TO FLOOD HAZARD AREAS: THE SITE DOES NOT LIE WITHIN OR ADJACENT TO A DESIGNATED FLOOD HAZARD AREA.

2. SITE LOCATION: THE SITE IS BOUNDED ON THE NORTH BY THE UNM TENNIS COMPLEX; ON THE EAST BY A RESIDENTIAL LOT; ON THE SOUTH BY SUNSHINE TERRACE AVENUE, A PAVED STREET WITH CURB AND GUTTER; AND, ON THE WEST BY THE UNDEVELOPED RIGHT-OF-WAY OF ASH STREET.

3. PRE-DESIGN CONFERENCE RECAP FINDINGS:

   A. DRAINAGE PLAN PER DPM.

   B. PRIOR TO C.O. RELEASE, NEED STREET GRADES FOR ASH STREET.

   C. PRIOR TO BUILDING PERMIT RELEASE, NEED EXISTING CONTOURS OF ASH STREET.

   D. NEED TO ACCEPT OFF-SITE HISTORIC RUNOFF THROUGH SITE AND CONVEY TO SUNSHINE TERRACE AVENUE.

   E. FREE DISCHARGE TO SUNSHINE TERRACE AVENUE ALLOWED; ENGINEER MUST ADDRESS (DOWNSTREAM CONDITIONS).

4. DRAINAGE FROM UNM PROPERTY: DRAINAGE FROM UNM PROPERTY OUTFALLS INTO THE ASH STREET RIGHT-OF-WAY. PRECAST CONCRETE SLABS HAVE BEEN PLACED EDGE-TO-EDGE ALONG THE SOUTH BACKSLOPE OF THE EXISTING SWALE TO PREVENT FLOODING OF THE LOTS ALONG SUNSHINE TERRACE AND TO CHANNEL THE FLOW IN THE SWALE TO THE POINT OF OUTFALL. IT IS ONLY AFTER THE FLOW DISCHARGES INTO THE ASH STREET RIGHT-OF-WAY THAT IT FLOWS BACK INTO LOT 1, SOLELY BECAUSE OF THE FILL THAT HAS BEEN PLACED IN THE RIGHT-OF-WAY. THE UNM PHYSICAL PLANT ENGINEER CONFIRMED THAT THE INTENT OF THE CONCRETE WAS TO CREATE AN OUTFALL FOR THE SWALE THAT COINCIDED WITH ASH STREET. FLOW FROM UNM PROPERTY IS NOT INTENDED TO FLOW INTO LOT ONE, AND, THEREFORE, SAID FLOW IS NOT ACCEPTED.

5. ASH STREET RIGHT-OF-WAY: ASH STREET WEST OF THE SITE IS UNDEVELOPED. THE RIGHT-OF-WAY CONTAINS A SANITARY SEWER LINE THAT SERVES THE UNM TENNIS COMPLEX. THIS LINE AND THE MANHOLE AT WHICH IT TERMINATES DOES NOT SHOW UP ON THE SEWER SECTIONALS. THE STREET IS NOT NEEDED FOR ACCESS SINCE BOTH OF THE LOTS FRONTING IT OBTAIN THEIR ACCESS FROM SUNSHINE TERRACE AVENUE. A CONSIDERABLE AMOUNT OF FILL HAS BEEN DUMPED ON THE EAST SIDE OF THIS RIGHT-OF-WAY WHICH SHOWS ON THE EXISTING CONTOURS AS A SMALL RIDGE. THIS DIVERTS UNM WATER BACK ONTO LOT 1. THIS "OFF-SITE" FLOW IS NOT ACCEPTED.

6. OFF-SITE FLOW FROM LOT 2: WHATEVER SMALL AMOUNT OF FLOW THAT COMES FROM LOT 2 WILL BE INTERCEPTED BY THE SWALE EAST OF THE FOUR-PLEX AND CONVEYED TO THE PARKING LOT.

   DOWNSTREAM CAPACITY: THE SITE IS AN "INFILL" SITE, ONE OF THE LAST, IF NOT THE LAST, LOT ON THE STREET TO BE DEVELOPED. SITE DISCHARGE WILL ENTER SUNSHINE TERRACE AVENUE THROUGH THE DRIVE PAD. ALL STREET DRAINAGE IS PICKED UP BY ONE INLET IN THE INTERSECTION AND CONVEYED TO THE ARROYO (SEE FLOODWAY MAP) VIA A 25-INCH RCP CULVERT PIPE.

LEGAL DESCRIPTION:

A CERTAIN TRACT OR PARCEL OF LAND SITUATED WITHIN THE CITY LIMITS OF THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO; BEING AND COMPRISING LOT 1, BLOCK D, SUNSHINE TERRACE ADDITION, SECTION 28, T10N, R3E, NMPM.

DRAINAGE CALCULATIONS

I. **REFERENCES:**

A. CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM) VOLUME 2, DESIGN CRITERIA, CHAPTER 22, DRAINAGE, FLOOD CONTROL AND EROSION CONTROL.

B. FLOODWAY MAP, PANEL 35 OF 50, FEDERAL EMERGENCY MANAGEMENT AGENCY, OCTOBER 14, 1983.

II. **ON-SITE RUNOFF CHARACTERISTICS:**

A. UNDEVELOPED RUNOFF COEFFICIENT:

TYPE OF SURFACE	AREA	"C"VALUE	AREA("C")
STREETS, DRIVES, WALKS			
ROOFS			
LAWNS & LANDSCAPING			
UNDEVELOPED	8750	0.40	3500
TOTAL AREA	8750 = 0.20 Acres		

WEIGHTED "C" VALUE = 3500 / 8750 = 0.40

B. DEVELOPED RUNOFF COEFFIENT:

TYPE OF SURFACE	AREA	"C"VALUE	AREA("C")
STREETS, DRIVES, WALKS	2516	0.95	2390
ROOFS	1847	0.90	1662
LAWNS & LANDSCAPING	3667	0.25	917
UNDEVELOPED	720	0.40	288
TOTAL AREA	8750		5257

WEIGHTED "C" VALUE = 5257 / 8750 = 0.60

C. RAINFALL, 100-YR.,6-HR.:(REF. A., PLATE 22.2 D-1) P_6 = 2.3 INCHES

D. TIME OF CONCENTRATION: USE MINIMUM T_c = 10 MINUTES.

E. RAINFALL INTENSITY,I: (For use with rational equation. (REF. A., PLATE 22.2 D-1) $I = 2.3(6.84)(10)^{-0.51} = 4.86$

III. **ON-SITE PEAK DISCHARGE:**

A. Existing Conditions:
Q_{100} = 0.40 X 4.86 X 0.20 = 0.40 CFS
Q_{10} = 0.657 X 0.40 = 0.26 CFS

B. Developed Conditions:
Q_{100} = 0.60 X 4.86 X 0.20 = 0.58 CFS
Q_{10} = 0.657 X 0.58 = 0.38 CFS

IV. **ON-SITE VOLUME:**

A. Existing Conditions:
V_{100} = 0.40 (2.3/12)8750 = 670 CF
V_{10} =0.657 X 670 = 440 CF

B. Developed Conditions:
V_{100} = 0.60 (2.3 /12) 8750 = 1006 CF
V_{10} = 0.657 X 1006 = 661 CF

RECEIVED JUL 15 1986 HYDROLOGY SECTION

BENCH MARK:

A.C.S. STATION 1-L16 LOCATED AT THE INTERSECTION OF YALE BLVD. S.E. AND ROSS AVENUE, S.E. A SQUARE CHISELED IN TOP OF CONCRETE CURB AT N.N.E. RETURN, ELEVATION 5176.097 FEET.

TEMPORARY BENCH MARK (TBM) IS LOCATED AT THE INTERSECTION OF ASH STREET AND SUNSHINE TERRACE AVENUE, AT THE E.S.E. CURB RETURN, A SQUARE WITH THE THE LETTERS BM PAINTED ON TOP OF CURB WITH ORANGE PAINT, ELEVATION 5082.69'.

LEGEND

EXISTING	NEW	DESCRIPTION	
		CONTOUR	
		SPOT ELEVATION	
		PROP. LINE	
		FLOW DIRECTION	
		TOP ASPHALT	TA
		TOP CURB (CONCRETE)	TC
		TOP OF WALL	TW
		GROUND ELEV.	NG

FRANK D. LOVE NEW MEXICO 6512 REGISTERED PROFESSIONAL ENGINEER
7/15/86

GRADING AND DRAINAGE PLAN

OAKCREST THREE - FOUR PLEX