HYDROLOGY K12/D14 1 PLAN

K12/D14

1 PLAN

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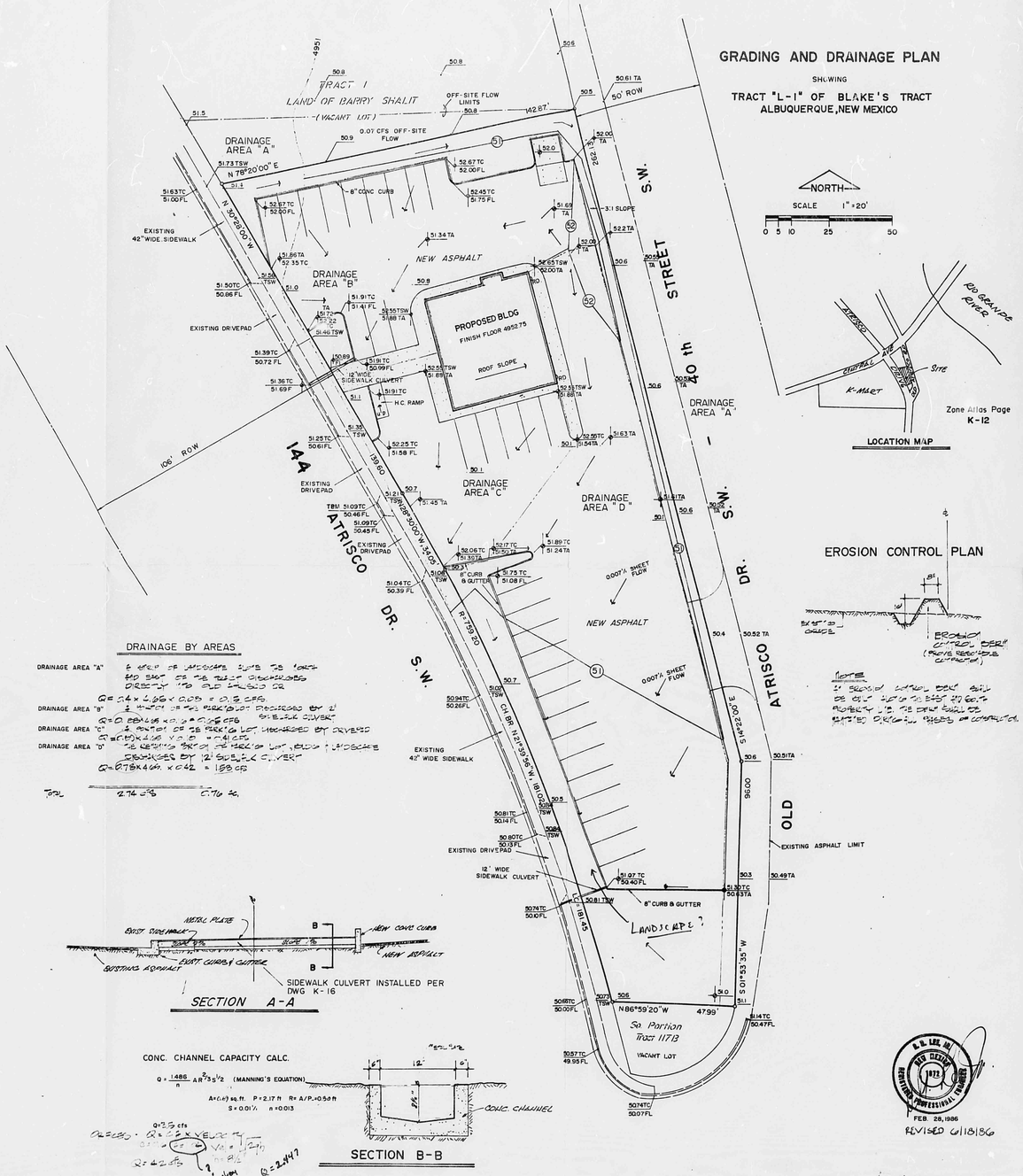
CITY OF ALBUQUERQUE

GRADING AND DRAINAGE PLAN

SHOWING

TRACT "L-1" OF BLAKE'S TRACT
ALBUQUERQUE, NEW MEXICO



LOCATION MAP

DRAINAGE BY AREAS

DRAINAGE AREA "A" [illegible]

DRAINAGE AREA "B" [illegible]

DRAINAGE AREA "C" [illegible]

DRAINAGE AREA "D" [illegible]

TOTAL 2.74 CFS 0.76 ac.

EROSION CONTROL PLAN

NOTE

[illegible]

SECTION A-A

CONC. CHANNEL CAPACITY CALC.

$Q = \frac{1.486}{n} A R^{2/3} S^{1/2}$ (MANNING'S EQUATION)

A=(.6') sq.ft. P=2.17 ft R=A/P=0.58 ft

S=0.01'/' n=0.013

SECTION B-B

FEB. 28, 1986

REVISED 6/18/86

DRAINAGE CALCULATIONS

I. REFERENCES:

A. City of Albuquerque Development Process Manual (DPM) Vol. 2, Design Criteria, Chapter 22: Drainage, Flood Control, and Erosion Control.

B. Soil Survey of Bernalillo County and parts of Sandoval and Valencia Counties, New Mexico, United States Department of Agriculture, Soil Conservation Service.

C. Floodway, Flood Boundary and Floodway map, City of Albuquerque, New Mexico, Panel 28 of 50.

II. GENERAL INFORMATION:

A. Soil Type (Ref. B, Page 30) Soil type is Gb, Gila Loam, Hydrologic Soil Group B.

B. Imperviousness:

Type of Surface	Existing Sq. Ft.	Area / Acres	Proposed Sq. Ft.	Area / Acres
Building Roof	-0-	-0-	1910	0.0438
Concrete Surfaces	-0-	-0-	1525	0.0350
Asphalt Surfaces	-0-	-0-	23045	0.5290
Landscaping and	-0-	-0-	6800	0.1561
Undeveloped Surface	33280	0.7640		
Site Total	33280	0.7640	33280	0.7640

C. "C" Factor(See Amendment to the DPM Jan. 19, 1986)

	"C" Factor	Area	C x A
1. Proposed impervious surfaces			
Building (Roof area)	0.90	0.0438	0.0394
Concrete surface	0.95	0.0350	0.0333
Asphalt surface	0.95	0.5290	0.5026
Landscape	0.25	0.1561	0.0390
Developed weighted "C" Factor = 0.80			
2. Existing impervious surfaces			
Undeveloped Area	0.40	0.7640	0.3056
Existing weighted "C" Factor = 0.40			

D. Rainfall, 100-year, 6-hour, R(6); (See Ref. A, Plate 22.2 D-1); R(6) = 2.20 inches.

E. Time of Concentration, Tc; Tc 10 minutes; use 10 minutes (minimum value) for calculations.

F. Rainfall intensity, I; (See Ref. A, Plate 22.2 D-2)

I = R(6) x 6.84 x Tc(-0.51)
= 2.20 x 6.84 x 10(-0.51)
= 4.65 in/hr

III. PEAK DISCHARGE:

A. Existing Conditions. (Use Rational Equation)
Q(100) = 0.40 x 4.65 x 0.764 =1.42 cfs
Q(10) = 0.657 x 1.42 = 0.93 (Ref. A, Plate 22.2 D-1)

B. Developed Conditions.
Q(100) = 0.80 x 4.65 x 0.764 = 2.84 cfs
Q(10) = 0.657 x 2.84 = 1.87 cfs

CONCLUSIONS:

1. The site is an infill development. A 0.2 acre site adjacent to this development will be the only remaining site vacant.
2. All the current development within the water shed basin discharges freely. (discharge is into Atrisco Road SW) Any discharge into Old Atrisco Drive SW (40th Street) will eventually flow into Atrisco Drive. The intersection is improved with curb and gutter.
3. Proposed development peak discharge is comparatively small amount and would have minimum impact on downstream flooding.
4. A detention pond would only delay the time for flow to reach the ponded flood zone; therefore the detention pond would not help existing conditions.
5. The subject does not lie within a flood plain, per reference D.

IV. CONSTRUCTION NOTES:

1. Two (2) working days prior to any excavation, contractor must contact line locating service at 765-1234 for location of existing utilities.
2. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all potential obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
3. All work on this project shall be performed in accordance with applicable Federal, State and Local laws, rules, and regulations concerning construction safety and health.
4. All construction within City Right-of-Way shall be performed in accordance with applicable City of Albuquerque standards and proceedures.

SYMBOL LEGEND

	Existing contour
	Proposed contour
	Existing spot elevation
	Proposed spot elevation
	Direction of flow
FF	Finish floor
TA	Top of asphalt
TC	Top of curb
FL	Flowline
TSW	Top of sidewalk
RD	Roof Drain

TBM All elevations are reference to City Benchmark 2-K12B, located at the intersection of Central Ave. and Atrisco Drive SW. Bears elevation 4954.92 TBM spray painted blue on top of curb as shown on plan bears elevation 4951.09

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HYDROLOGY SECTION

B L A K E'S LOTABURGER
144 A T R I S C O S W
ALBUQUERQUE, NEW MEXICO

C-2

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