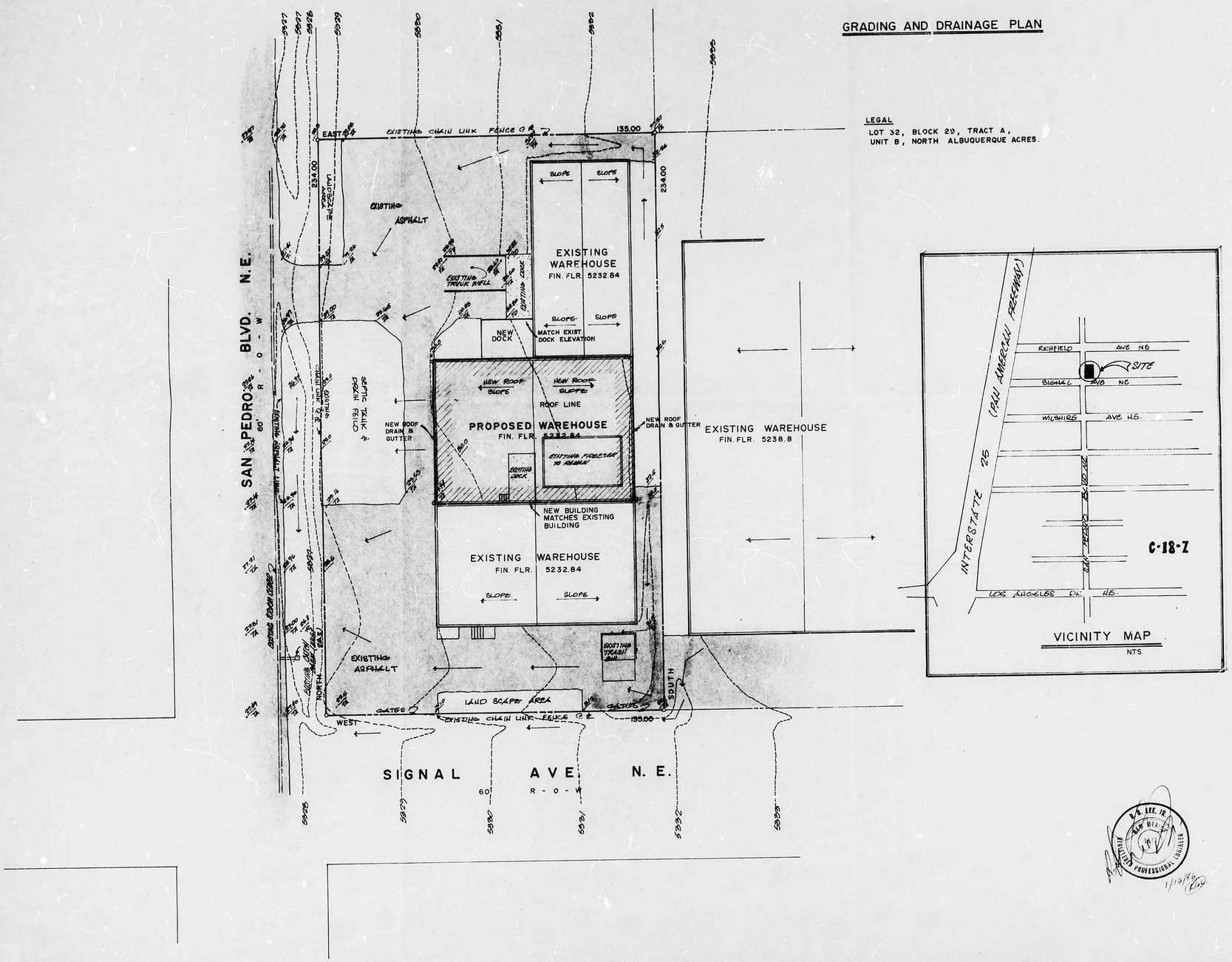
HYDROLOGY

C18/D11
1 PLAN

C18/D12

1 PLAN



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 10 of 50 .

D. Zone Atlas page C - 18 .

II. GENERAL INFORMATION:

A. Soil Type (Ref. B, Page 11) Soil type is Embudo EmB) Fine sandy loam. Hydrologic Soil Group "B" .

B. Imperviousness:

Type of Surface	Existing Area Sq. Ft.	Existing Area / Acres	Proposed Area Sq. Ft.	Proposed Area / Acres
Building Roof	7840	0.1800	12560	0.2858
Concrete Surfaces	504	0.0116	789	0.0181
Asphalt Surfaces	13891	0.3189	13900	0.3190
Landscaping	9355	0.2148	4341	0.0997
Undeveloped Surface	-0-	-0-	-0-	-0-
Site Total	31590	0.7252	31590	0.7252

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

1. Proposed impervious surfaces

	"C" Factor	Area	C x A
Building(Roof area)	0.90	0.2858	0.2595
Concrete surface	0.95	0.0181	0.0172
Asphalt surface	0.95	0.3191	0.3031
Landscape (undev)	0.40	0.0997	0.0399

Developed weighted "C" Factor. 0.85

2. Existing impervious surfaces

	"C" Factor	Area	C x A
Building (Roof area)	0.90	0.1800	0.1620
Concrete surface	0.95	0.0116	0.0110
Asphalt surface	0.95	0.3189	0.3030
Undeveloped Area	0.40	0.2148	0.0859

Existing weighted "C" Factor 0.77

D. Rainfall, 100 year, 6-hour, R(6): (See Ref. A, Plate 22.2 D-1): R(6) = 2.30 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)
= 2.30 x 6.84 x 10(-0.51)
= 4.86 in/hr

III. PEAK DISCHARGE:

A. Existing Conditions (Use Rational Equation)
Q(100) = 0.77 x 4.86 x 0.725 = 2.71 cfs.
Q(10) = 0.657 x 2.71 = 1.78 cfs (Ref. A, Plate 22.2 D-1)

B. Developed Conditions.
Q(100) = 0.85 x 4.86 x 0.725 = 2.99 cfs
Q(10) = 0.657 x 2.99 = 1.97 cfs (Ref. A, Plate 22.2 D-1)

IV. CONCLUSIONS:

A. A 10% increase due to new addition will have minimal affect on down stream conditions.

B. All runoff generated is discharge into the bar ditch along San Pedro Blvd. N.E. which is discharged into the existing Stormsewer as shown hereon.

C. Surface drainage reflects pervious Amended Drainage Plan (C18/D12)

V. 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
915	Existing spot elevation
	Proposed spot elevation
←	Direction of flow
TA	Top of asphalt
TC	Top of curb
FL	Flowline

TBM Temporary benchmark as shown on Drainage Plan (" TBM" spray painted blue on top of concrete pad bears elevation 4962.43, reference to City of Albuquerque (ACS) standard brass cap stamped 11-D18, Elevation 5235.63 (MSL)

D.S. LEE, JR. NEW MEX. REGISTERED PROFESSIONAL ENGINEER 1/14/86

RECEIVED JUL 15 1986 HYDROLOGY SECTION

GRADING & DRAINAGE PLAN

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