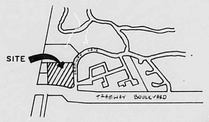
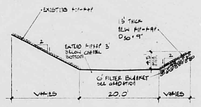
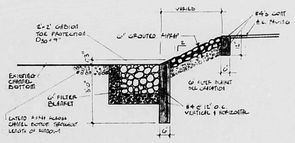


VICINITY MAP B-23, C-23

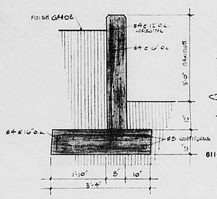
NTS



SECTION A-A NO SCALE

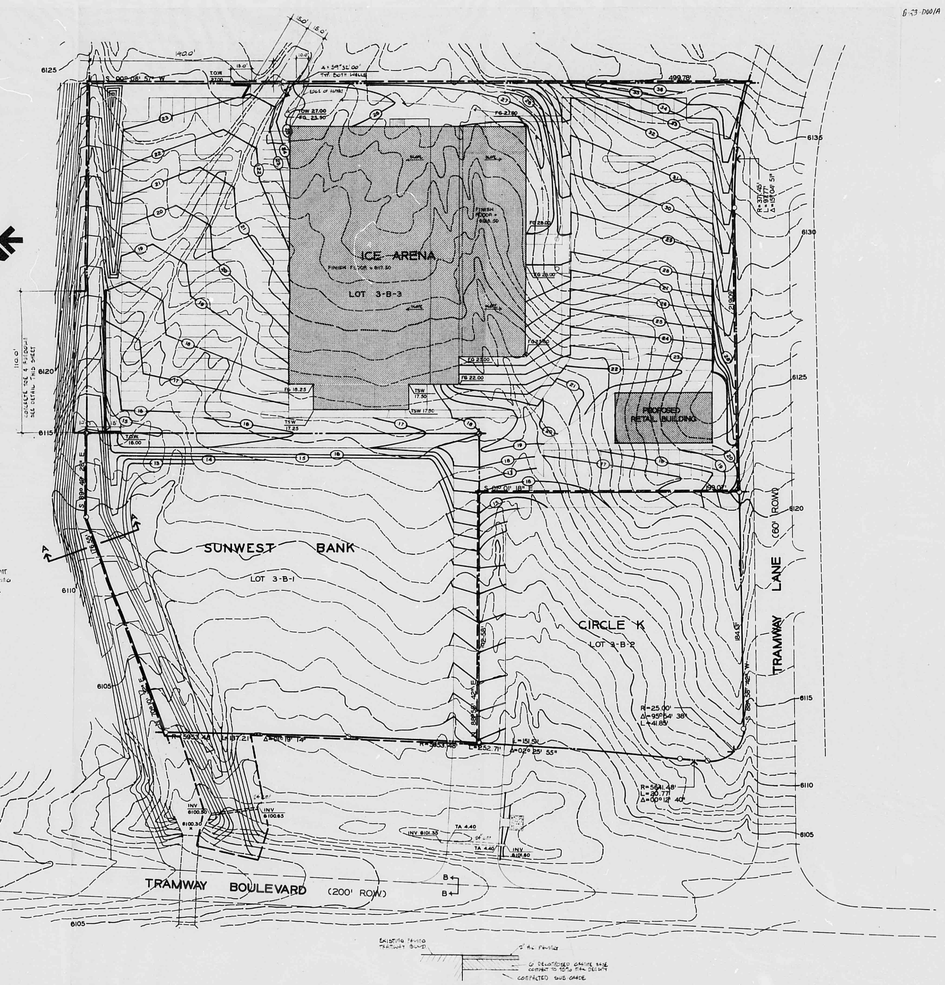


CONCRETE TOE & RUNDOWN NTS



RETAINING WALL 3/4" = 1'-0"

FILTER GRADES	
SIEVE SIZE	% PASSING
1"	90-100
3/4"	50-70
#4	0-10
#200	0-3



GRADING AND DRAINAGE PLAN

0 15 30 60 90

1" = 30.0'

B-23-D001A

B-23-D001A

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. Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico, United States Department of Agricultural, Soil Conservation Service.

C. Floodway Map, Community Panel Numbers 5 and 11, Federal Emergency Management Agency.

D. Drainage Report for Tracts 1 and 2, Unit 7, Sandia Heights South Bohannan-Huston & Associates, Inc., February 1975.

E. Drainage Management Plan for Portions of Sandia Heights South, Unit 7 and Chaparral Park, Unit 5, Bohannan-Huston Inc. 1975.

II. GENERAL INFORMATION:

A. Soil Type (Ref. B., Page (2) Soil Type is one of the two following types: Etc. Embudo-Tijeras Complex 0 to 9 percent slopes, or, Embudo Gravelly fine sandy loam, 0 to 5 percent slopes. Both are Hydrologic soils Group B.

B. Imperviousness:

Type of Surface	Existing Area Sq. Ft.	Existing Area Acres	Proposed Area Sq. Ft.	Proposed Area Acres
Building roof	N/A		38100	0.0747
Concrete surfaces	N/A		7600	0.0597
Asphalt surfaces	N/A		63925	1.4652
Undeveloped surface	142925	3.2811	33400	0.8815
Site Total	142925	3.2811	142925	3.2811
Percent Impervious	0%		73%	

C. "C" Factor (See Ref. A., Plate 22.2 C-1)
1. Undeveloped "C" Factor = 0.34
2. Developed "C" Factor = 0.73

D. Rainfall, 100-year, 6-hour, P6: (See Ref. A., Plate 22.2 D-1) P6 = 2.2 inches.

E. Time of Concentration, Tc: Kirpich equation
Tc = 0.0078 (L^3/H)^0.385) = 0.0078(1.1^3/ 0.385)
Tc = 0.0078 (630 1.155/20 0.385) = 4.2 min. Use 10 min.

F. Rainfall Intensity, I: (See Ref. A., Plate 22.2 D-2)

I = P6 x 6.84 x Tc ^-0.5 = 2.2 x 6.84 x (10)^-0.5 = 5.71 in/hr

III. PEAK DISCHARGE:

A. Existing Conditions, (Use Rational Equation)
Q100 = C.2.A x 5.71 x 3.28 = 6.37 cfs.

Q10 = 0.657 x 6.37 = 4.19 cfs (Ref. A, Plate 22.2 D-1)

B. Developed Conditions:
Q100 = 0.73 x 5.71 x 3.28 = 13.30 cfs.

Q10 = 0.657 x 13.30 = 8.74 cfs.

IV. OFFSITE FLOW:

From references D and E, the total discharge entering the site from the east is 400 cfs. Off-site flow enters the site from the channels at the northern end of the east property line. There is no other off-site flow.

V. FLOW DEPTH IN CHANNEL:

Southerly Channel Q = 245 cfs cross section taken at a point 25' upstream from east property line of Lot 3-B-3.

Average width, 16'-0" Average side slopes, 3:1
Estimated Mannings n-factor, 0.035
Average Slope = 0.036 ft/ft

P = 14.2432 + 16 = 24.5 = 29.25
A = 16 + 1.5(24.5) = 51.19
V = (1.486/n 0.035) (R)^2/3 (S)(0.036)^1/2 = 9.05
Q = AV = 9.05 x 29.25 = 265 cfs
Q100 = 245 cfs. 265 cfs.

An average depth of 1.5' and a velocity of 9 fps closely approximates peak flow conditions.

VI. FLOW IN PARKING LOT SWALE:

Slope = 0.0290 ft/ft Bottom width = 30.0'
Depth = 0.4' Side slopes 15:0.65 =23.08
Area = 30 x 0.65 + 15 x 0.65 = 29.25
P = 210.65 x 0.65 + 15 x 15)^1/2 x 30' = 60.03
R = A/P = 29.25/60.03 = 0.49

V = (1.486/0.017) (0.49)^2/3 (0.029)^1/2 = 9.25 ft/sec
Q = AV = 29.25 x 9.25 = 270 cfs 245 cfs.

The swale has adequate capacity.

LEGAL DESCRIPTION:

Lot 3-B-3
Unit 7
Tract 1
Sandia Heights South Subdivision
Bernalillo County, New Mexico

CONSTRUCTION NOTES:

1. Two (2) working days prior to any excavation, contractor must contact line locating service 765-1234 for location of existing utilities.

2. Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all potential obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum of delay.

3. All work on this project shall be performed in accordance with applicable federal, state, and local laws, ordinances and regulations concerning construction safety and health.

LEGEND

Existing contour

Proposed contour

Proposed spot elevation

Retaining wall (SEE SKPW. TRW SHEET)

Flow direction

F.G. Finish grade

T.S.W. Top of sidewalk

THE OUPOST ARENA
ALBUQUERQUE, NEW MEXICO

REACTIVE LIMITS OF CONSTRUCTION

RECEIVED AUG 15 1985 HYDROLOGY SECTION

C-2

REF 21 DATE 6-23-92 OPERATOR

CITY OF ALBUQUERQUE

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PLANS/PLATS ON FILE

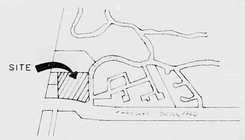
FILE DESC: B-23/D001A

PLANS/PLATS 1

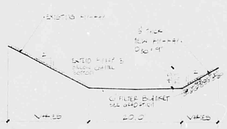
L 36 F 30 D 24 C 20 B 16 A 12

CITY OF ALBUQUERQUE

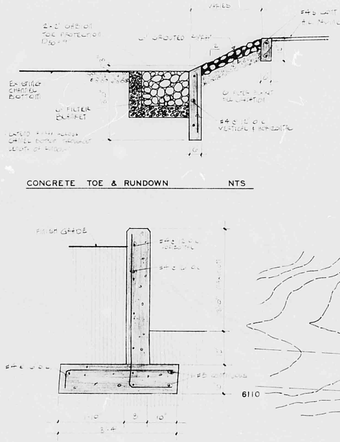
C D F E



VICINITY MAP B-23, C-23



SECTION A-A NO SCALE



CONCRETE TOE & RUNDOWN NTS

RETAINING WALL 3/4" = 1'-0"

SECTION B-B NTS

GRADING AND DRAINAGE PLAN

0 15 30 60 90

1" = 30.0'

B23-D001A

F 30 D 24 C 20 B 16 A 12

CITY OF ALBUQUERQUE

C D F

C-2

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ONCE ON DARK.

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