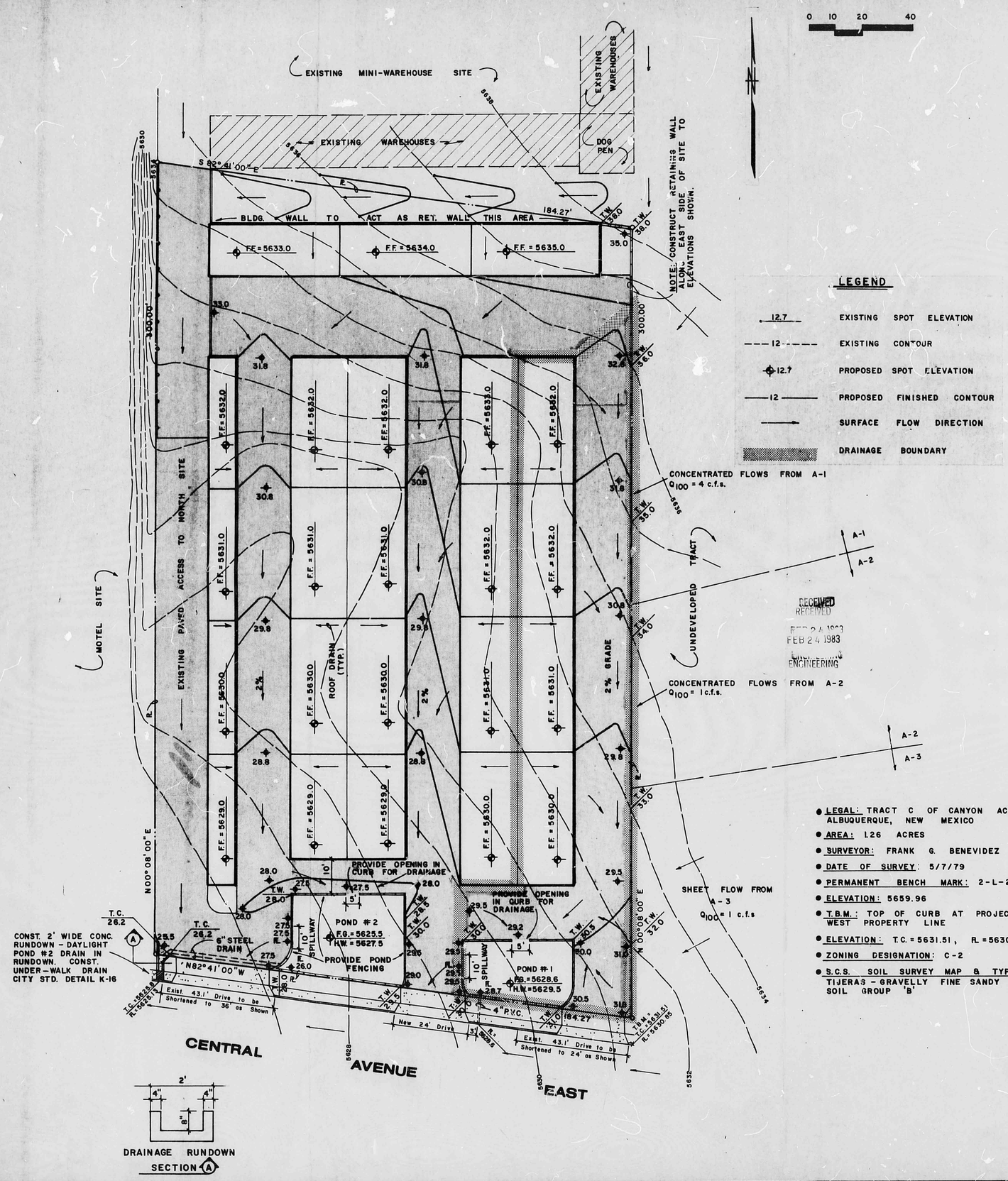
HYDROLOGY L22/D28 CENTRAL MINI WAREHOUSE UNITS

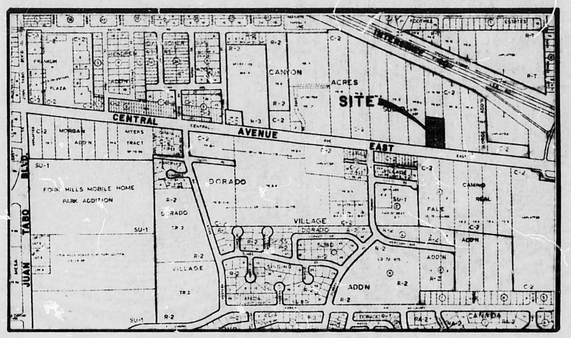
L22/D28

CENTRAL MINI

WAREHOUSE UNITS

1 PLAN





VICINITY MAP - L-22

FLOOD HAZARD MAP

- **LEGAL:** TRACT C OF CANYON ACRES, ALBUQUERQUE, NEW MEXICO
- **AREA:** 1.26 ACRES
- **SURVEYOR:** FRANK G. BENEVIDEZ
- **DATE OF SURVEY:** 5/7/79
- **PERMANENT BENCH MARK:** 2-L-22
- **ELEVATION:** 5659.96
- **T.B.M.:** TOP OF CURB AT PROJECTION OF WEST PROPERTY LINE
- **ELEVATION:** T.C. = 5631.51, R.L. = 5630.85
- **ZONING DESIGNATION:** C-2
- **S.C.S. SOIL SURVEY MAP & TYPE:** TqB-TIJERAS - GRAVELLY FINE SANDY LOAM-SOIL GROUP 'B'

RECEIVED
FEB 24 1983
ENGINEERING

APPROVED FOR DRAINAGE
2/11/83
Brian Bennett
CONTINGENCIES

Offsite Drainage:

Offsite Basin: Comprised of Areas A-1, A-2, A-3, vacant land.
Total Area = 3.6 Acres (A-1 = 2.4 Ac., A-2 = 0.5 Ac., A-3 = 0.7 Ac.)
Area A-1: Drains to existing swale/concentrated flow at location shown. Q_{100} = (0.34)(2.5")(2.15)(2.4 Ac.) = 4 cfs
Area A-2: Drains to existing swale/concentrated flow at location shown. Q_{100} = (0.34)(2.5")(2.15)(0.5 Ac.) = 1 cfs
Area A-3: Drains to site in sheet flow.
Q_{100} = (0.34)(2.5)(2.15)(0.7 Ac.) = 1 cfs
Offsite flow total captured on-site for routing to Pond #1/ Central Ave.
Q_{100} = 6 cfs
Spillway onto proposed drivepad - horizontal crested wier.
Q = CLH 3/2, where C = 2.56
L = 10'
H = 0.4',
then Q capacity = 6.5 cfs > 6 cfs

Onsite Drainage: Total area of site draining to ponds = 1.08 Acres. Remaining 0.18 Acres occupied by existing paved access drive to north area.

Flow to Pond #1:
Area = 0.25 Ac.
Vol.$_{100}$ to pond = (2.5"/12)(0.92)(10,800) = 2070 ft.^{3}
Q_{100} to pond =)0.92)(2.5)(2.15)(0.25) = 1 cfs
Q_{100} undeveloped = (0.34)(2.5)(2.15)(0.25) = 0.5 cfs
Outlet pipe - minimum 4" dia. - under a head of 0.8', will discharge 0.5 cfs.
Peak volume stored while outflowing Q = 0.5 cfs = 824 ft.^{3} at a peak time of 33 min. Vol. available = 900 ft.^{3} at 0.9' depth.
Bottom of pond to be set 0.1' below pipe invert to hold nuisance flows.

Flow to Pond #2:
Area = 0.83 Ac.
Vol.$_{100}$ to pond = (2.5"/12)(0.92)(36,155) = 6930 ft.^{3}
Q_{100} to pond = (0.92)(2.5)(2.15)(0.83) = 4 cfs
Spillway onto proposed developed Q = CLH 3/2 where
C = 2.56
L = 10'
H = 0.4'
then Q capacity = 6.5 cfs > 4 cfs
Outlet pipe to discharge Q_{100} undeveloped rate.
Q_{100} = (0.34)(2.5)(2.15)(0.83) = 1.5 cfs
Peak volume stored while outflowing 1.5 cfs = 2951 ft.^{3} at a peak time of 35 min. Vol. available = 3000 ft.^{3} at a depth of 2'.
Pipe size required for Q = 1.5 cfs under a head of 1.5' = 6" pipe.

L22/J28

CONSULTANTS, TERRA SOL INC.
ALBUQUERQUE OFFICE
LAS CRUCES OFFICE

Revisions | Date

GRADING/DRAINAGE PLAN for
CENTRAL MINIWAREHOUSE UNITS
Albuquerque, New Mexico

CHRISTOPHER L. WEBB
NEW MEXICO
7568
PROFESSIONAL ENGINEER

SHEET 1 OF 1