HYDROLOGY P14/D2 1 PLAN

P14/D2

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1 Plan

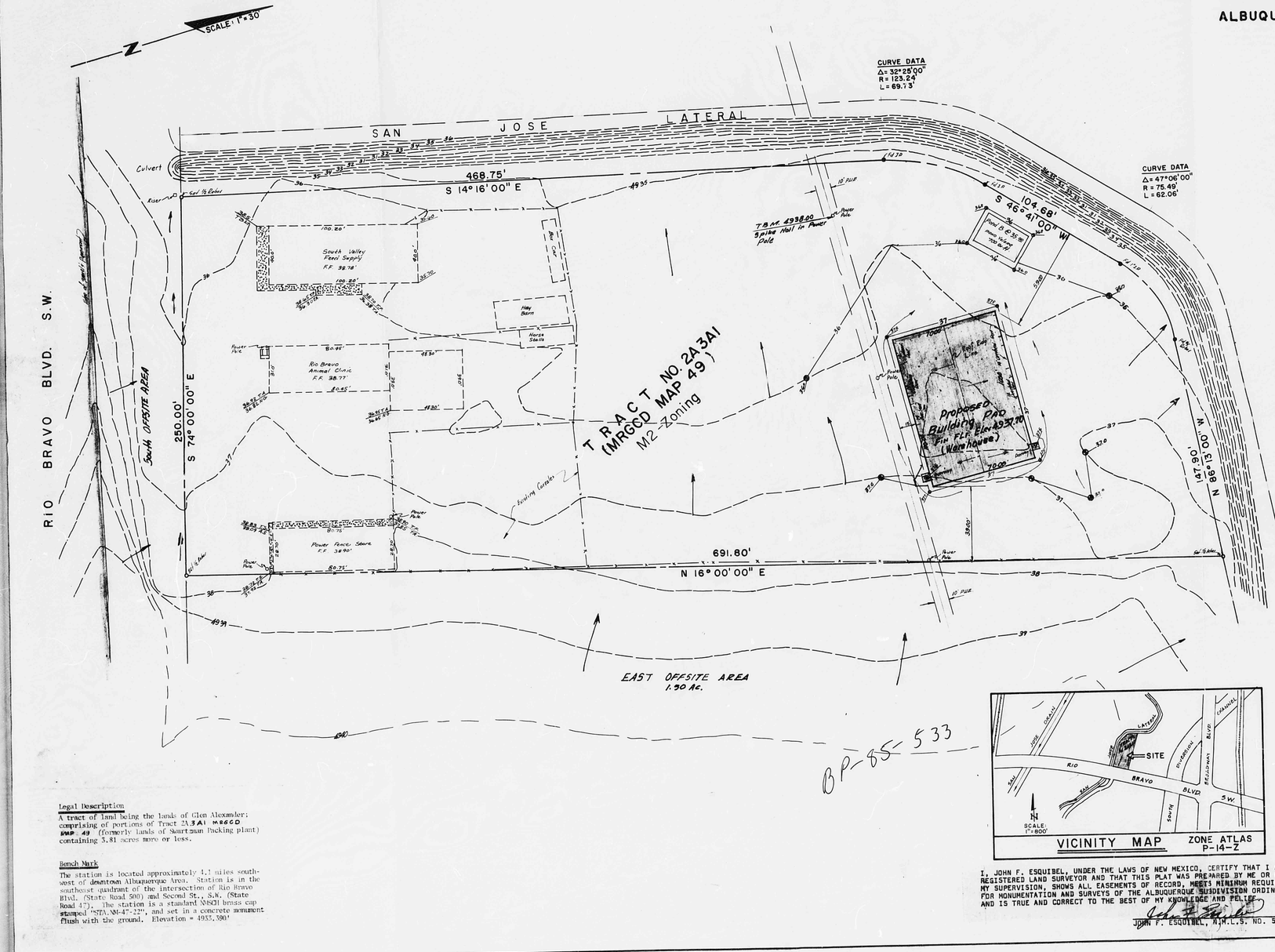
D 24 C 20 B 16 A 12 | CITY OF ALBUQUERQUE C D

GRADING AND DRAINAGE PLAN

LANDS OF GLENN ALEXANDER

321 RIO BRAVO BOULEVARD S.W.

ALBUQUERQUE, N.M.



DRAINAGE CRITERIA AND HYDROLOGIC COMPUTATIONS

THE SITE IS LOCATED ON THE NORTHSIDE OF RIO BRAVO BLVD. EAST AND ADJACENT TO THE SAN JOSE LATERAL BETWEEN SECOND STREET S.E. AND BROADWAY BLVD. S.E. . THE SITE IS COMPOSED OF 3.81 ACRES AND HAS THREE EXISTING BUILDINGS, A BOX CAR, A BARN AND SEVERAL LIVESTOCK PENS. THE TERRAIN SLOPES FROM EAST TO WEST OF ABOUT 1.2%

THE SITE DOES LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE AS IS SHOWN ON FLOOD HAZARD MAP 350002-0040-C-MR0937 . THE PROPOSED NEW BUILDING FINISH FLOOR ELEVATION SHALL BE AT 4937.00 OR HIGHER.

THE PLAN SHOWS:
- A. EXISTING CONTOURS AT ONE FOOT INTERVALS.
- B. PROPOSED GRADES INDICATED BY CONTOURS AND SPOT ELEVATIONS.
- C. SWALES AS INDICATED BY LEGEND SHOWN.
- D. GRADING AND DRAINAGE PLAN.

THERE IS A SMALL AMOUNT OF OFFSITE RUNOFF THAT IS CONCENTRATED ON THE SOUTHSIDE OF THE PROPERTY. THIS OFFSITE FLOW IS THE FLOW GENERATED BY THE SOUTH OF THE CENTERLINE OF RIO BRAVO BLVD. S.E. EAST OF THE MRGCD SOUTH DIVERSION CHANNEL. THIS FLOW IS CONCENTRATED ON THE EXISTING SWALE ON THE SOUTHSIDE OF THE BUILDING AND DRAINS GRADUALLY INTO THE SAN JOSE LATERAL. THEREFORE THERE IS NO SIGNIFICANT OFFSITE FLOW AFFECTING THIS SITE. THE AREA EAST OF THIS SITE DRAINS NORTHWEST TO THE SAN JOSE LATERAL BY MEANS OF SHEET FLOW. THIS AREA CONTAINS ABOUT 1.5 ACRES, MORE OR LESS. THE AREA ALONG THE SOUTHSIDE CONTAINS 0.5 ACRES, MORE OR LESS. RUNOFF COMPUTATIONS ARE SHOWN HEREON:

OFFSITE RUNOFF CALCULATIONS

SOUTH AREA (DIRT AREA)

Q_{100} = CIA
C = 0.60 I_{100} = 4.86 A = 0.50
Q_{100}=0.60 (4.65) (0.50) = 1.45 cfs.

PER DPM
P = 2.3 (DPM Value)
I = P(6.84) $t^{-0.51}$ = 4.86

EAST AREA (UNDEVELOPED LAND)

Sheet Flow Across Site To San Jose Lateral
Q_{100} = CIA
C = 0.44 I_{100} = 4.86 A = 1.50
Q_{100} = 0.44 (4.65) (1.50) = 3.21 cfs
Non Concentrator Offsite Runoff.

SOIL TYPE:

AS PER THE USDA SOIL CONSERVATION REPORT ON SOILS OF BERNALILLO COUNTY. THIS SITE HAS A SANDY LOAM OF THE HYDROLOGIC GROUP B .

DEVELOPED CONDITION (NEW BUILDING ONLY)

ACCORDING TO THE PRE-DESIGN CONFERENCE ON 3/27/85 WITH THE CITY OF ALBUQUERQUE HYDROLOGY SECTION, THE SITE HAS EXISTING STRUCTURES ON 3.81 ACRES AND IS LOCATED IN THE COUNTY. THEREFORE THE SITE WILL REQUIRE A RETENTION POND FOR THE VOLUME OF WATER GENERATED BY THE NEW BUILDING ONLY. A COMPUTATION SHOWS THE REQUIRED OF VOLUME OF THE RETENTION POND.

DETERMINE PEAK FLOW RATE (FOR NEW BUILDING)

ROOF AREA 7000 SF
DIRT AREA 9800 SF
TOTAL DRAINAGE AREA CONTRIBUTING TO RUNOFF 16,800 SF = 0.36 Acres
COMPOSITE "C" FACTOR
0.9 (7000) + 0.6 (9800) = 0.73
16,800
C = 0.63 $Q_{peak\ 100}$ = C I A = 0.73 (4.86) (0.36) = 1.28 cfs

POND VOLUME COMPUTATIONS

Q_{100} = 1.28 cfs Developed per New Building

POND VOLUME REQUIRED
1.28 ft³/sec. x 10 min. x 60 sec./min. = 768 ft³
Pond Size Required is 36.0' x 20.0' x 1.0'= $\frac{2}{3}$ (1 x 10') = 688.0 cu.ft.

LEGEND

- ASPHALT PAVING
- LANDSCAPING AREA
- PROPERTY LINE
- EXISTING CURB & GUTTER w/SIDEWALK
- EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED FINISHED CONTOUR
- SURFACE FLOW ELEVATION
- T.A. TOP OF ASPHALT
- BUILDING STRUCTURE
- T.C. TOP OF CURB

RECEIVED
APR 17 1985
HYDROLOGY SECTION

I, JOHN F. ESQUIBEL, UNDER THE LAWS OF NEW MEXICO, CERTIFY THAT I AM A REGISTERED LAND SURVEYOR AND THAT THIS PLAT WAS PREPARED BY ME OR UNDER MY SUPERVISION, SHOWS ALL EASEMENTS OF RECORD, MEETS MINIMUM REQUIREMENTS FOR MONUMENTATION AND SURVEYS OF THE ALBUQUERQUE SUBDIVISION ORDINANCE, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

JOHN F. ESQUIBEL, N.M.L.S. NO. 5949

DATE 4-17-85 JFE | REL.

A & E ENGINEERING, INC.
CIVIL ENGINEERING · SURVEYING · PLANNING
1330 SAN PEDRO NE · SUITE 101 · 266-8791
ALBUQUERQUE, NEW MEXICO 87110

Legal Description

A tract of land being the lands of Glen Alexander; comprising of portions of Tract 2A3A1 MRGCD MAP 49 (formerly lands of Sweetman Packing plant) containing 3.81 acres more or less.

Bench Mark

The station is located approximately 4.1 miles southwest of downtown Albuquerque Area. Station is in the southeast quadrant of the intersection of Rio Bravo Blvd. (State Road 500) and Second St., S.W. (State Road 47). The station is a standard NGSI brass cap stamped "STA.NM-47-22", and set in a concrete monument flush with the ground. Elevation = 4933.380'

CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT

D 24 C 20 B 16 A 12

CITY OF ALBUQUERQUE

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