HYDROLOGY

E17/D41D

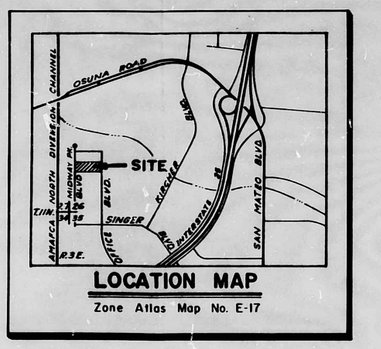
ONE PLAN

PLAN
FOR

MECHENBIER BLDG.

EM-D41D

SCALE: 1" = 20'




**LOCATION MAP**

Zone Atlas Map No. E-17

## LEGEND:

| | | |
|---|---|---|
| EXISTING SPOT ELEVATION | = | • 112.3 |
| EXISTING CONTOUR | = | 112 |
| PROPOSED SPOT ELEVATION | = | ◆ 112.45 |
| PROPOSED CONTOUR | = | 112 |
| PROPOSED OR EXISTING CONCRETE | = | |
| DRAINAGE FLOW DIRECTION | = | |
| TOP OF CURB ELEVATION | = | TC = 112.82 |
| CURB FLOW LINE ELEVATION | = | FL = 111.67 |
| FINISH FLOOR ELEVATION | = | F.F. = 5114.50 |
| LANDSCAPED AREA (GRASS/GRAVEL) | = | Ⓐ |

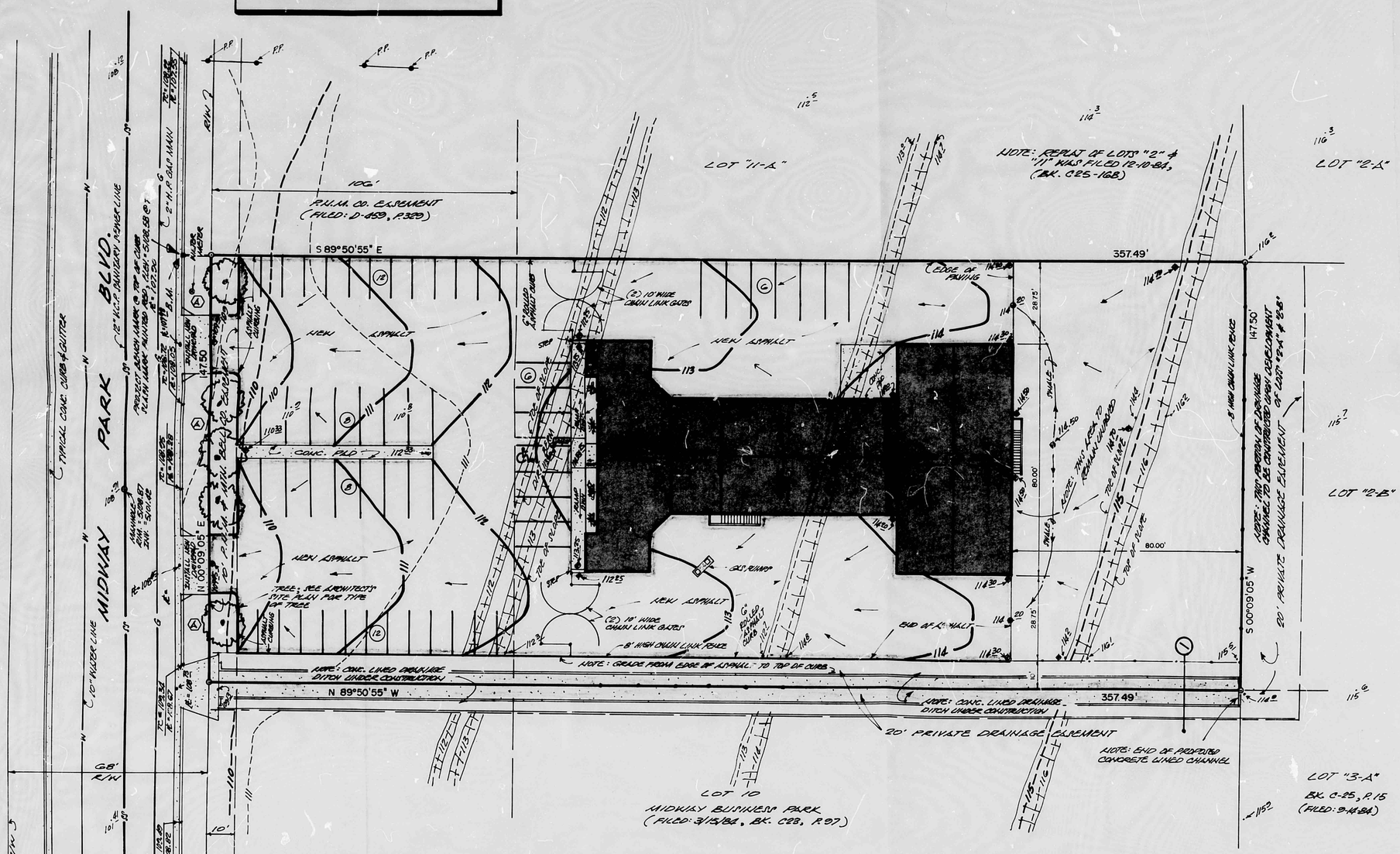
**GENERAL NOTES:**

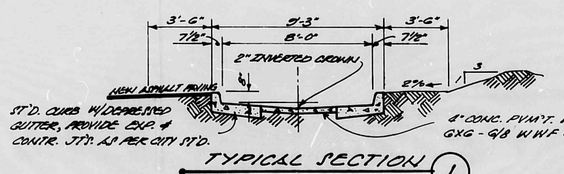
1. TOPOGRAPHY SURVEY PERFORMED BY THE "TRANSIT-STADIA METHOD.
2. NO SEARCH HAS BEEN MADE FOR EASEMENTS OF RECORD WITHIN THE SUBJECT PROPERTY OTHER THAN SHOWN ON THE MAP HEREON.
3. UTILITY LINE INFORMATION OBTAINED FROM CITY OF ALBUQUERQUE ENGINEERING DEPARTMENT RECORDS AND FIELD SURVEY DATA.

**BENCH MARK:**

REFERENCE BENCH MARK IS USBLM STATION "SECTION CORNER" (27 | 26 / 34 | 35)

LOCATION IS 253 FEET EAST OF THE AMAFCA NORTH DIVERSION CHANNEL AND 0.55 MILE SOUTH OF OSUNA ROAD. M.S.L. ELEVATION = 5110.41




TYPICAL SECTION (1)
DRAINAGE CHANNEL

SCALE: 1/4" = 1'-0"

## 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 Agriculture, Soil Conservation Service.

**II. GENERAL INFORMATION:**

A. Soil Type (Ref.B., Sheet No. 20) Soil type is EmB Embudo gravelly fine sandy loam. The Hydrologic Soil Group is "B".

B. Imperviousness:

| Type of Surface | Existing Area Sq.Ft. | Existing Area Acres | Proposed Area Sq.Ft. | Proposed Area Acres |
|---|---|---|---|---|
| Building roof | | | 8,248 | |
| Concrete Surfaces | | | 772 | |
| Asphalt Surfaces | | | 27,729 | |
| Landscaping | | | | |
| Undeveloped surface | 57,729 | | 15,980 | |
| Site total | 57,729 | 1.33 | 57,729 | 1.33 |
| Percent impervious | 0% | | 64% | |

C. "C" Factor (See Ref. A., Plate 22.2 C-1)
1. Undeveloped "C" Factor = 0.34
2. Developed "C" Factor = 0.65

D. Rainfall, 100-year, 6-hour, $R_6$; (See Ref.A., Plate 22.2 D-1) $R_6$ = 2.2 inches.

E. Time of Consentration, $T_c$; Watershed length = 360ft Delta Elev. = 6.5 ft. Slope = 0.0181 ft/ft

$T_c = 0.0078(360^{0.77}/0.0181^{0.38})$ (Kirpich Equation)

$T_c$ = 3.4 min. Use 10 minutes minimum $T_c$.

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

$I = R_6 \times 6.84 \times T_c^{-0.51} = 2.2 \times 6.84 \times (10)^{-0.51}$

I = 4.65 In/Hr

**III. PEAK DISCHARGE:**

A. Existing Conditions. (Use Rational Equation, Q = CIA

$Q_{100} = 0.34 \times 4.65 \times 1.33 = 2.10$cfs

$Q_{10} = 0.657 \times 2.10$ cfs = 1.38 cfs

B. Developed Conditions.

$Q_{100} = 0.65 \times 4.65 \times 1.33 = 4.02$ cfs

$Q_{10} = 0.657 \times 4.02 = 2.64$ cfs

**VI. PEAK VOLUME:**

A. Existing Conditions:

$V_{100} = 0.34\ (2.2/12)57.729 = 3598$ cf

$V_{10} = 0.657 \times 3598 = 2364$ cf

B. Developed Conditions.

$V_{100} = 0.65\ (2.2/12)57729 = 6879$cf

$V_{10} = 0.657 \times 6879 = 4520$ cf

HOUSE MOVING SEP 11 1985 5861 - 435 HYDROLOGY SECTION

**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 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 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 PROCEDURES.

**LEGAL DESCRIPTION:**

A CERTAIN TRACT OR PARCEL OF LAND SITUATED WITHIN THE CITY LIMITS OF THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO: BEING AND COMPRISING LOTS 11A AND 11B, MIDWAY BUSINESS PARK, SECTION 26, T11N, R3E, NMPM, ALBUQUERQUE, NEW MEXICO.

**EROSION AND SEDIMENTATION CONTROL:**

THE CONTRACTOR IS RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROL DURING CONSTRUCTION. THE CONTRACTOR MUST PREVENT ANY AND ALL SOIL-BEARING STORM RUNOFF GENERATED ON THE SITE FROM ENTERING THE ADJACENT STREET, DRAINAGE CHANNEL OR PRIVATE PROPERTY. IN THE EVENT THAT SEDIMENTATION FROM THE SITE DOES ENTER THE STREET, THE CONTRACTOR SHALL COMPLETELY AND THOROUGHLY REMOVE SAME WITHOUT DELAY.

RECEIVED SEP 23 1985 HYDROLOGY SECTION

E17/D41D

RECEIVED SEP 23 1985 HYDROLOGY SECTION

Rick put in file

FRANK O. LOVELADY NEW MEXICO 6812 REGISTERED PROFESSIONAL ENGINEER 3/25/85 9-23-85

ENGINEERS SEAL

GRADING & DRAINAGE PLAN
FOR
MECHENBIER BUILDING
LOCATED AT MIDWAY BUSINESS PARK
ALBUQUERQUE, NEW MEXICO
FEBRUARY, 1985