HYDROLOGY

E17-D41R

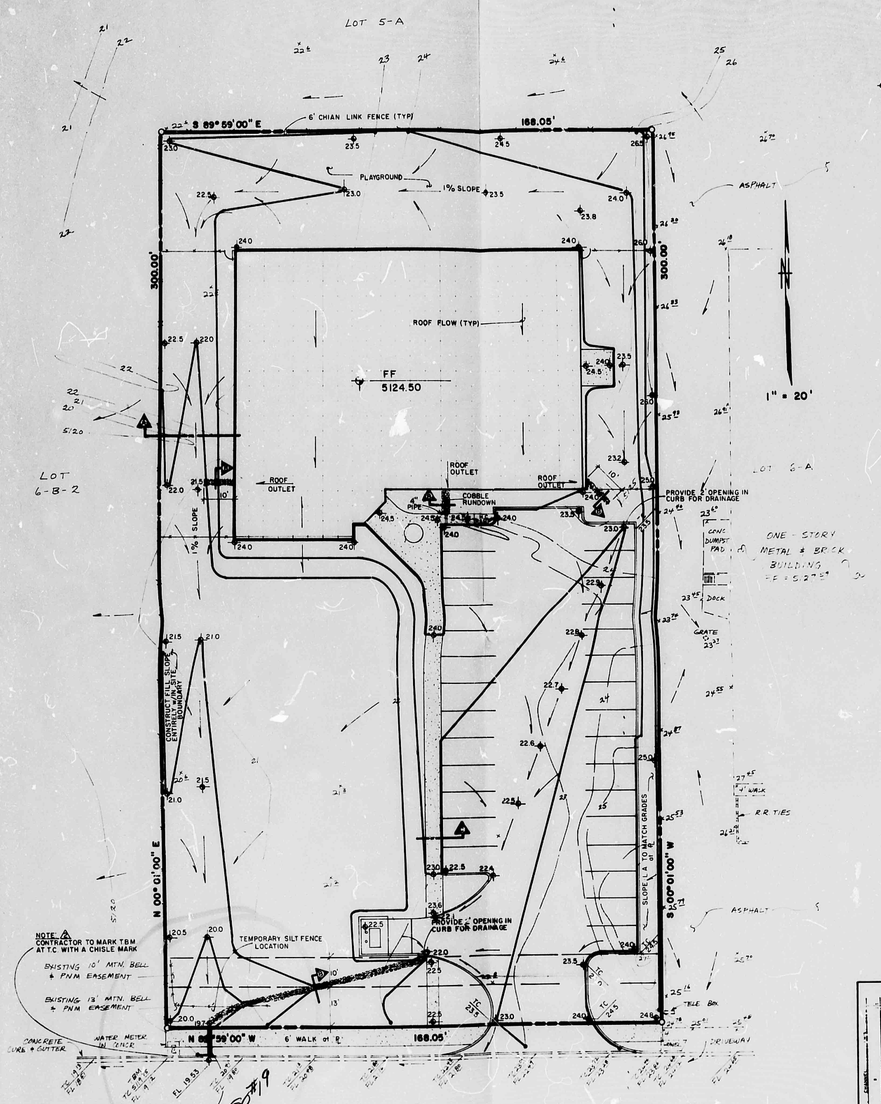
~~F17/D58~~

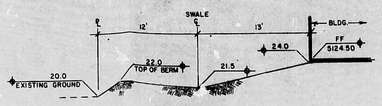
2 PLANS

F17/D58

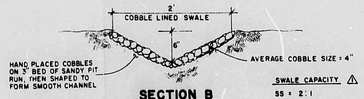
2 Plans

CITY OF ALBUQUERQUE



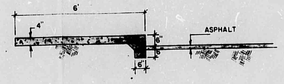


SECTION A
SWALE
NTS



SECTION B
COBBLE RUNDOWN
NTS

SWALE CAPACITY
SS = 2:1
N = 0.03
S = 3%
For a Q of 1.5 cfs
Depth = 0.5'



SECTION C
TURNDOWN SIDEWALK
NTS

LEGEND

- ASPHALT PAVING
- LANDSCAPED AREA
- PROPERTY LINE
- EXISTING CURB & GUTTER W/SIDEWALK
- 12.7 EXISTING SPOT ELEVATION
- 12 EXISTING CONTOUR
- 12.7 PROPOSED SPOT ELEVATION
- 12 PROPOSED FINISHED CONTOUR
- SURFACE FLOW DIRECTION
- BUILDING STRUCTURE

REVISED 04-28-87
△1 ADDED CAPACITY NOTE FOR B SIDEWALK CULVERT
△2 ADDED TBM NOTE
CHRISTOPHER L. WEISS, P.E. DATE

SCOPE:

The proposed improvements are comprised of a 10,000 square foot block building to be used as a Montessori School site. Sidewalks, fences and an asphalt-paved parking lot will be provided. The remaining area will be landscaped with trees, shrubs and native grasses.

The present site is open undeveloped land with no improvements. The lot slopes at approximately 3% from northeast to southwest and is covered by a growth of sparse native grasses.

The intent of this plan is to show:

a) Existing relationships between the existing ground elevations and proposed finished elevations in order to facilitate positive drainage to designated discharge points.

b) The extent of proposed site improvements, including buildings, walks and pavement.

c) The flow rate/volume of rainfall runoff across or around these improvements and methods of handling these flows to meet City requirements for drainage management.

d) The relationship of onsite improvements with existing neighboring property to insure an orderly transition between proposed and surrounding grades.

GENERAL NOTES: Storm runoff will be discharged into Singer Blvd. which will carry it west to Midway Park Blvd., thence south to an existing improved drainage easement, and finally west where it drains into the North Diversion Channel. This plan is in compliance with the Midway Business Park Drainage Plan (revised 7/20/84) which was approved by City Hydrology 8/10/84.

LEGAL: Lot 6-B-1, Midway Business Park, Albuquerque, NM.

SURVEYOR: Ronald A. Forstbauer Surveying Co., Rio Rancho, NM.

B.M.: Standard BLM brass cap in concrete stamped SC 27.26 5124.50, elevation 5,110.41', located 1 mile west of I-25 and Osuna Road interchange and 0.5 mile south of Osuna.

T.B.M.: Top of curb at south extension of west property line. Elevation = 5,119.7'.

SOILS: From SCS Bernalillo County, NM, Soils Map, Soil Type EmB, Group 'B'.

FLOOD HAZARD: Site is not located within a flood hazard zone as shown on FIRM Map # .16.

OFF-SITE DRAINAGE: No off-site flows reach the site.

EROSION CONTROL: Contractor will be responsible for containing any sediment generated during construction by using either a fabric silt fence or by constructing a 1'-high earth berm across low points of discharge from the lot.

CALCULATIONS: Calculations are based on the City of Albuquerque D.P.M. Manual, Vol. II for the 100-year, 6-hour storm, using the Rational Formula to compare the existing and proposed runoff rates.

RATIONAL METHOD: Q = CIA

Area of site: 50,415 sq.ft. = 1.1574 Ac.

Run-off Coefficient:

Existing site:
Undeveloped Area = 50,415 ft²
Landscaped Area = 0 ft²
Paved Area = 0 ft²

$$C_u = \frac{(50,415)(0.40)}{50,415} = 0.40$$

Composite C = 0.40

Developed Site:
Roof Area = 10,133 ft²
Landscaped Area = 28,255 ft²
Paved Area = 12,027 ft²

$$C_r = \frac{(10,133)(0.90)}{50,415} = 0.18$$

$$C_l = \frac{(28,255)(0.25)}{50,415} = 0.14$$

$$C_p = \frac{(12,027)(0.95)}{50,415} = 0.23$$

Composite C = 0.55

Rainfall Intensity:

$$I = P_6 (6.84)\, T_c^{-0.51} = 4.65" \text{ per hour}$$

where P_6 = 2.2" (DPM 22.2 D-1)
T_c = 10 minutes

Existing Condition:

Q_{100} = (0.40)(4.65)(1.16) = 2.2 cfs

V_{100} = (0.40)(50,415)(2.2)(1/12) = 3,700 cu. ft.

Developed Condition:

Q_{100} = (0.55)(4.65)(1.16) = 3.0 cfs

V_{100} = (0.55)(50,415)(2.2)(1/12) = 5,080 cu. ft.

SUMMARY:

Q_{100} = (3.0)-(2.2) = 0.8 cfs (increase)
V_{100} = (5,080)-(3,700) = 1,380 cu. ft. (increase)

NOTICE TO CONTRACTOR

1. An excavation/construction permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.
2. All work detailed on these plans to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with Albuquerque Interim Standard Specifications for Public Works Construction.
3. Two working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for location of existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved within a minimum amount of delay.
5. Backfill compaction shall be according to collector street use.
6. Maintenance of these facilities shall be the responsibility of the Owner of the property served.
7. Contractor is responsible for obtaining excavation permit for sidewalk culvert/drain.
8. Proof of acceptance will be required prior to sign off for Certificate of Occupancy (C.O.).

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

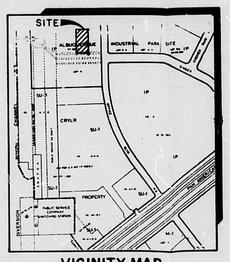
DESIGN APPROVAL: Bernie Montoya 5/4/87
Hydrology Section Date

INSPECTION APPROVAL: Rick Estrada 1/14/88
Inspection Section Date

ACCEPTANCE: Russell B. Sale 2-10-88
Construction Section/Permits Date

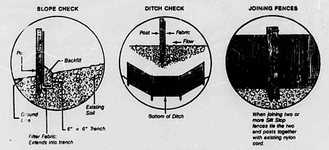
RECEIVED APR 20 1987 HYDROLOGY SECTION

F17/D58



VICINITY MAP
F - 17

FLOOD HAZARD MAP



SILT FENCE DETAIL
NTS

WEISS-HINES ENGINEERING INC.
1100 ALVARADO N.E. SUITE B
ALBUQUERQUE, NEW MEXICO 87110
(505) 266 - 3444

REVISIONS | DATE
DESIGNED
DRAWN
CHECKED

MONTESSORI SCHOOL
GRADING & DRAINAGE PLAN

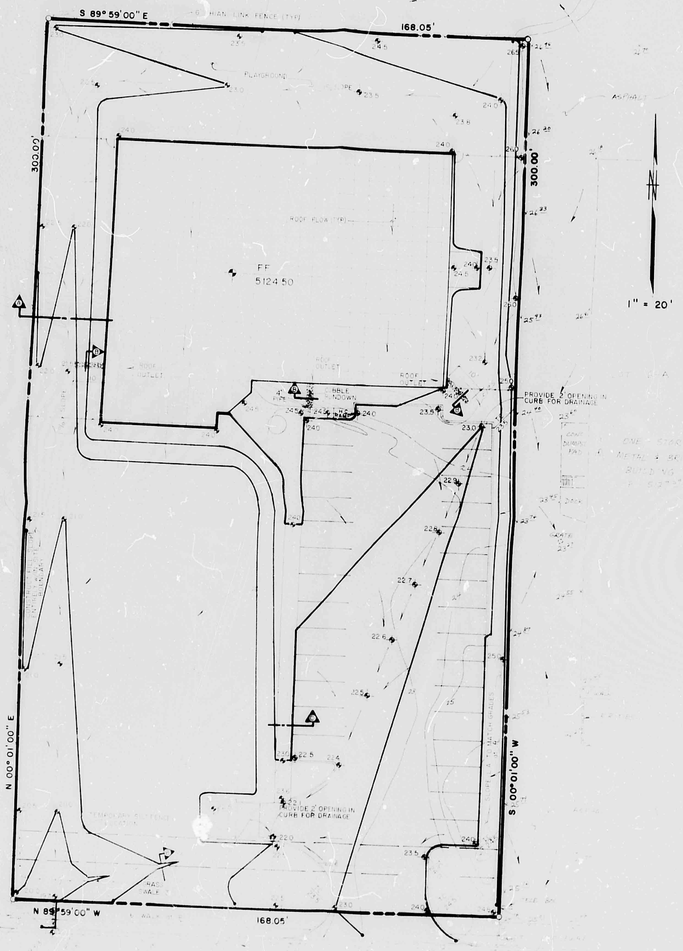
ENGINEERING

SHEET 1 OF 1

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

THIS PLAN SHOT TWICE ONCE ON LIGHT AND ONCE ON DARK.

CITY OF ALBUQUERQUE



SECTION A
SWALE
NTS

SECTION B
GRASS RUNDOWN
NTS

SECTION C
TURNDOWN SIDEWALK

LEGEND

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RESUBMITTAL 10-12-87

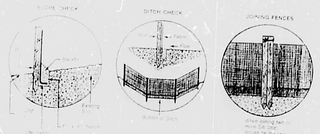
1. REPLACE COBBLE-LINED SWALE WITH GRASS-LINED SWALE
2. GRASS SWALE CAPACITY

CHRISTOPHER L. WEISS P.E. DATE

REVISED 04-28-87

1. ADDED CAPACITY FOR SWALE IN TRIANGULAR COLLECTOR
2. ADDED TEMP. NOTE

CHRISTOPHER L. WEISS P.E. DATE



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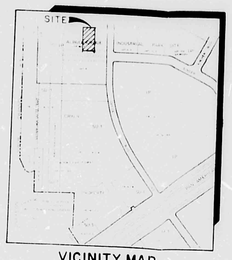
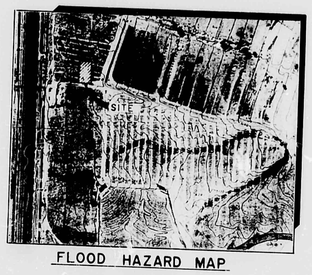


VICINITY MAP
F - 17



FLOOD HAZARD MAP

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ALBUQUERQUE, NEW MEXICO 87110
(505) 266-3444

REVISIONS	DATE

DESIGNED
DRAWN
CHECKED

MONTESSORI SCHOOL
GRADING & DRAINAGE PLAN

SHEET OF

CITY OF ALBUQUERQUE
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CITY OF ALBUQUERQUE C D