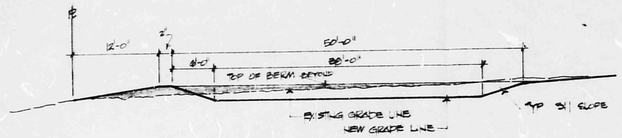
HYDROLOGY

C19/D2
2 PLANS

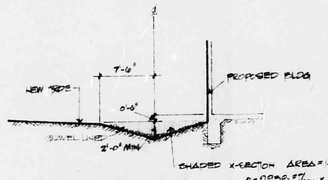
C19/D2

2 Plans




SECTION A-A (PROFILE ONLY)

SECTION C-C (PROFILE ONLY)

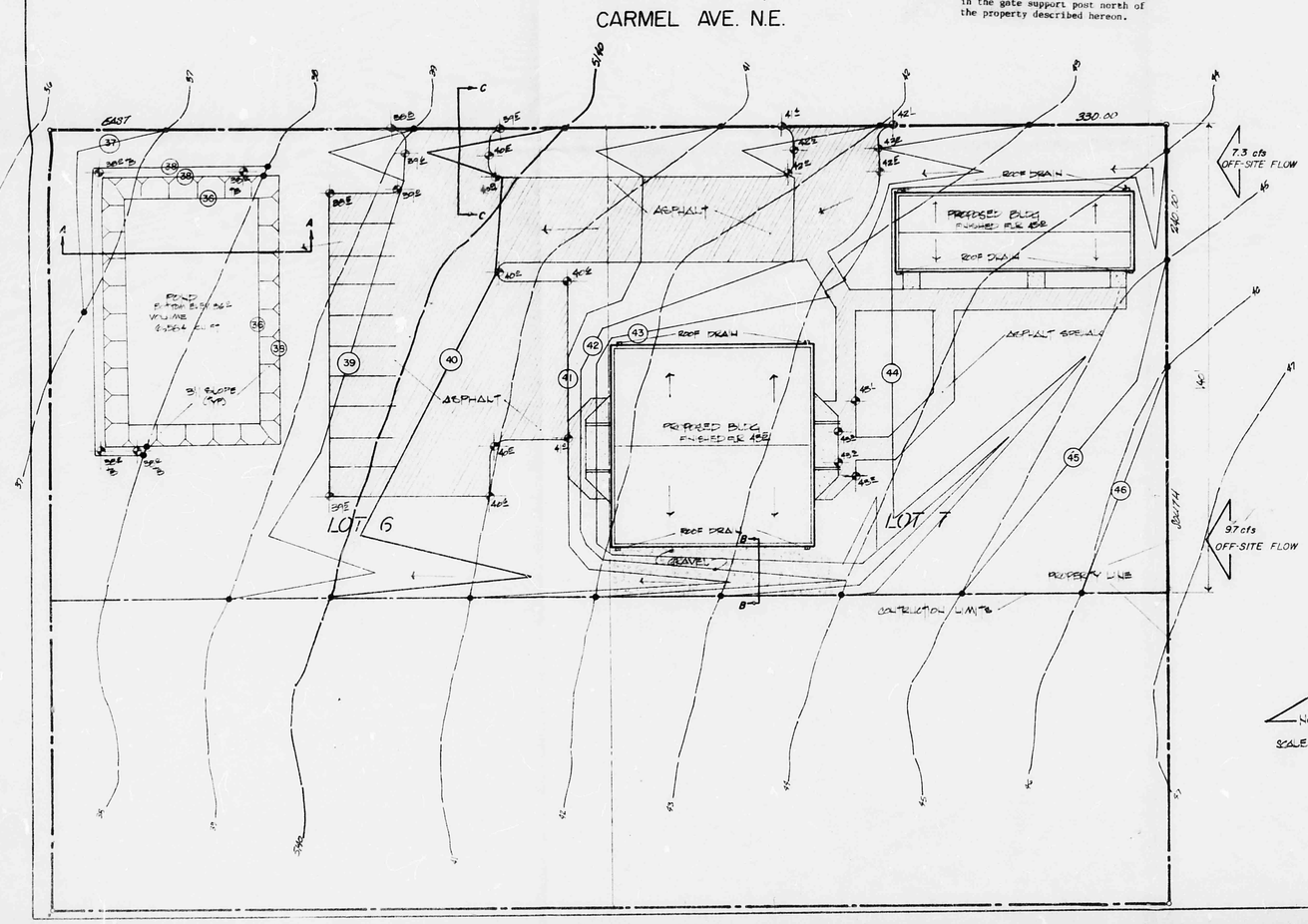



SECTION B-B

SHADED X-SECTION AREA = 4.64 ft²
Q = 0.998 ft³/sec x 14 sec⁻¹
= 13.1 ft³/sec
SWALE CAN CARRY 13 cfs
THUS 13 > 10 cfs

City Bench Mark STA 1 - C19, Elevation 5318.195
Temporary On-Site Bench Mark, Elevation 5342.99

DESCRIPTION:
TBM is located on top of a bolt set in the gate support post north of the property described hereon.




EXISTING CONDITIONS
Total considered (within construction limits)
46,200

Q = CIA
= 0.34 x 5.4 x 46,200/43,560
= 1.84 cfs

DEVELOPED CONDITIONS
Buildings
5,284 ft²

Q = CIA
= 1.0 x 5.4 x 5,284/43,560
= 0.66 cfs

Concrete Sidewalk
340 ft²

Q = CIA
= 1.0 x 5.4 x 340/43,560
= 0.04 cfs

Asphalt Paving
9,103
Asphalt Sidewalk
1,260
10,369

Q = CIA
= 0.9 x 5.4 x 10,369/43,560
= 1.16 cfs

Landscaped and Underdeveloped Area
30,207 ft²

Q = CIA
= 0.34 x 5.4 x 30,207/43,560
= 1.27 cfs

TOTAL = 3.13 cfs
Increase of 1.29 cfs

Off-site Flow Calculations

V = 1.19 (plate 22.2 B-1) Average Slope 3.28%

$T_c = \frac{L}{60\,V}$

$= \frac{2,500}{(60)(1.19)}$

= 35.01 min.

6 hr. rain = 2.3 plate 22.2 D-1

$I = (2.3)6.84\,(T_c = 35.01)^{-0.51}$

= 2.57

c = 0.34 (22.2 C-1) 0% impervious

Q = CIA
= (0.34) (2.57) (19.43 ac)

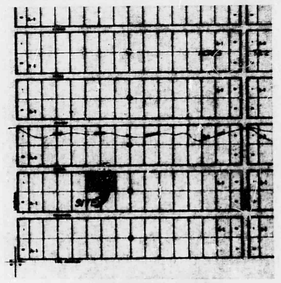
= 16.98 cfs 17 cfs

LEGEND
EXISTING CONTOUR LINE — 5140
DESIGNED CONTOUR LINE — 45
DESIGNED SPOT ELEVATION — 42.1
DIRECTION OF FLOW →
TB = TOP BERM 42.7

# DRAINAGE AND GRADING PLAN

LEGAL DESCRIPTION:

Lots numbered Six (6) and Seven (7) of Block Nine (9) of NORTH ALBUQUERQUE ACRES, Tract Two (2), Unit Three (3), of the City of Albuquerque, New Mexico, as the same is shown and designated on the Plat of said Tract and Unit, as filed in the office of the County Clerk of Bernalillo County.




VICINITY MAP
C-19

MAY 08 1984
HYDRO-OCY SECTION

POND VOLUME CALCULATIONS

Required
Total developed area 46,200

$V = CP_6\,A(1/12)$

Considered
35% impervious when due todevelopment

C = 0.66 (Plate C-1) $P_6$ = 2.3 (Plate D-1)
$V = (.066)(2.3)(46,200)(1/12)$

= 5,844 cu. ft.

Proposed Pond, Calculation

$2\left[\frac{(50 \times 30) + (38 \times 68)}{2}\right] = 6,584$ cu. ft.

THUS
6,584 > 5,844

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate 21:

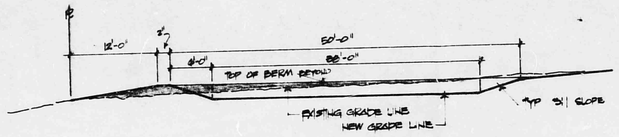
BmB - Embudo gravelly, fine, sandy loam; Hydrologic Soil Group 'B'

NOTE TO CONTRACTORS:

The contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street




HALL ENGINEERING

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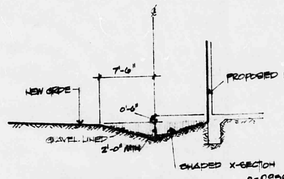


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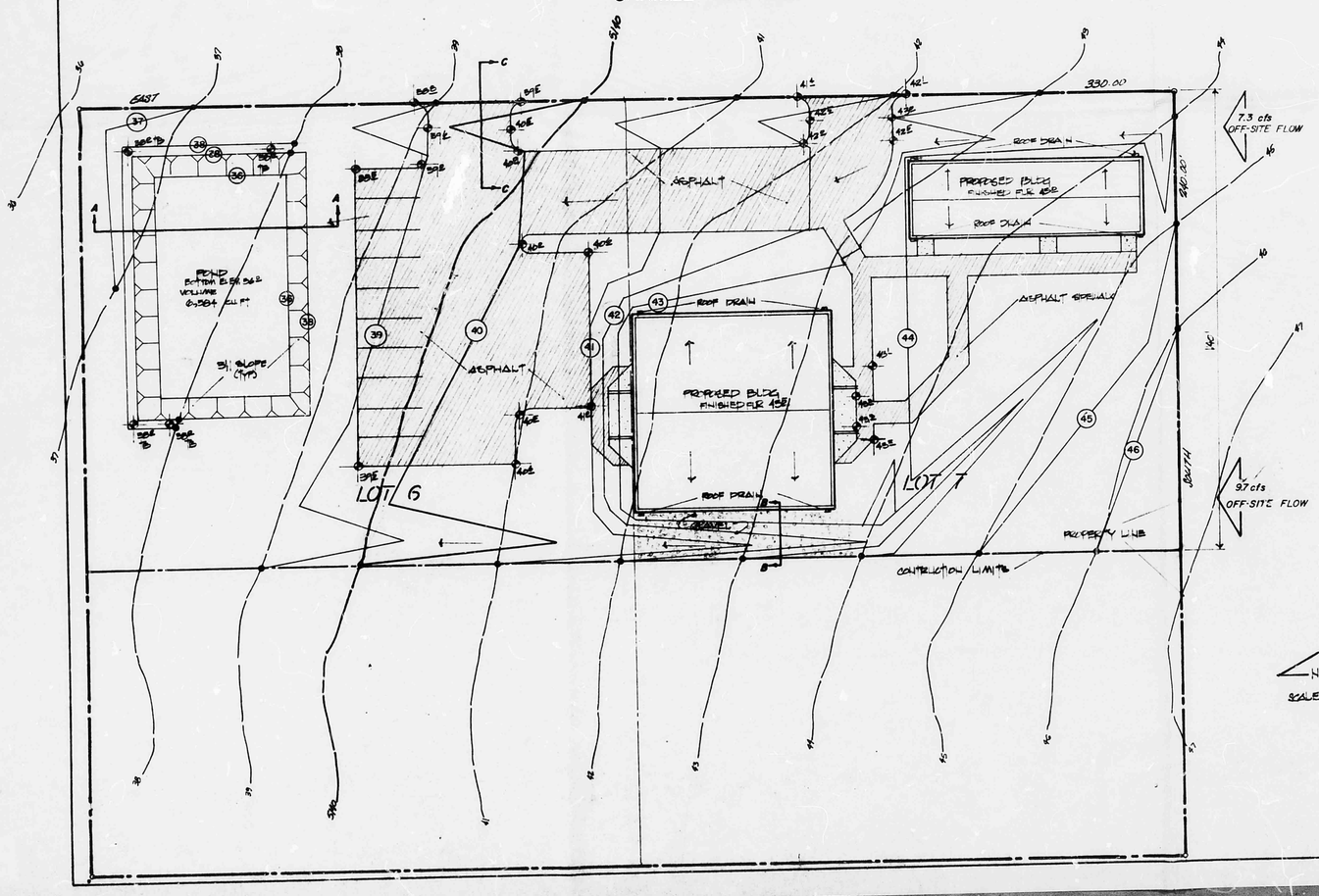


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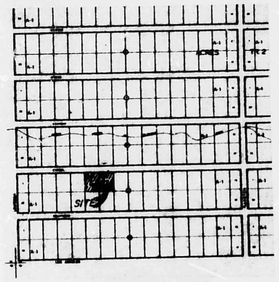


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MAY 08 1984
HYDROLOGY SECTION

RICHARD V. PILE
NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER

HALL ENGINEERING