HYDROLOGY L20/D19 WAREHOUSE & OFFICE

L20/D19

WAREHOUSE + OFFICE

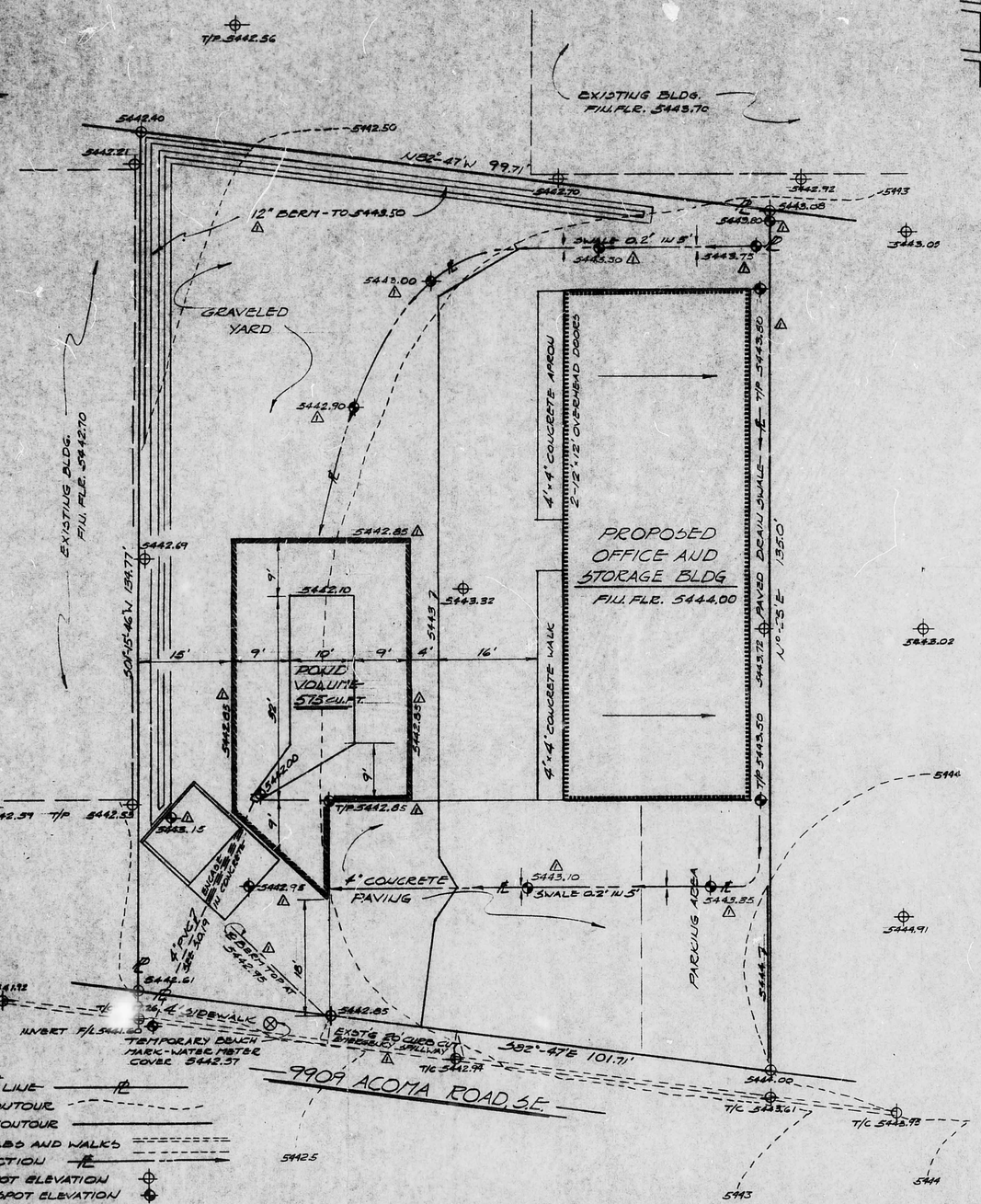
1 PLAN

DRAINAGE PLAN

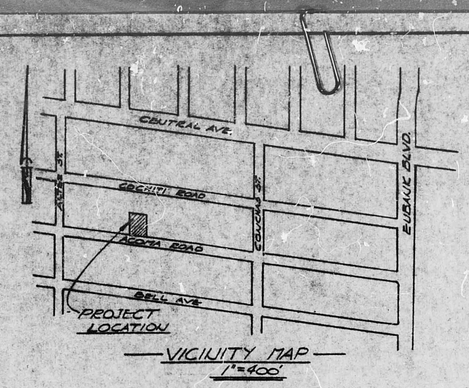
TRACT 7A (LOTS 7&8) BLOCK 15 - SKYLINE HEIGHTS ADD'N
ALBUQUERQUE, NEW MEXICO
ZONE MAP L-20 BENCHMARK S-L21R-ELEV. 5466.38 FLOOD PANEL 36

REFER TO PRE-DESIGN CONFERENCE OF 10-7-83 — NO ZONING HISTORY
TOTAL EXISTING AREA: 0.310 ACRES AREA PAVED & ROOFED: 5000 SQ.FT.

1" = 10'



LEGEND
- PROPERTY LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING CURBS AND WALKS
- FLOW DIRECTION
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION



VICINITY MAP
1" = 400'

GEOTECHNICAL RESEARCH & SERVICES, LTD.
501 KINLEY, NE - ALBUQUERQUE, NEW MEXICO 87123
(505) 247-0189

FILE # 1127 PROJECT SHUETE CONSTRUCTION OFFICE & STORAGE
DATE 12/30 DRAWN DLL SHEET 1 OF 1

TOTAL AREA = 13570 SQ.FT. = 0.310 ACRES - HYDROLOGIC SOIL GROUP "B"
TOTAL DEVELOPED AREA = 5000 SQ.FT. = 0.115 ACRES = 37% OF TOTAL

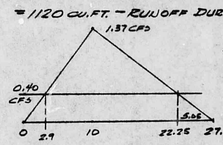
100 YEAR STORM - 6 HOUR RAINFALL - PER DPM 22.2 D1 = 2.43'

I = 2.43 x 2.3 = 5.6', C = 0.50 & CN = 85 - PER DPM 22.2 G1 & 2

DEVELOPED Q = 5.6 x 0.95 x 0.115 = 0.61 CFS
UNDEVELOPED Q = 5.6 x 0.70 x 0.195 = 0.76 CFS
TOTAL Q = 1.37 CFS & TIME OF CONCENTRATION = 10 MINUTES

ASSUME 4" PVC DISCHARGE WITH MAXIMUM HEAD = 42.80 - 41.60 = 1.20 FEET
PER ACP, FIG. 93 INTERPOLATED, PAGE 230, "n" = 0.010 VS 0.015; Q = 0.40 CFS

MAXIMUM RUNOFF PER CURVE 85 = 1.0" = 0.083' x 13500 S.F.
= 1120 CU.FT. — RUNOFF DURATION = 1120 x 2 / 1.37 CFS = 1635 SEC. = 27.3 MIN.



22.25 - 2.9 = 19.35 MIN = 1161 SEC. AT 0.40 CFS
= 465 C.F. & $\frac{2.9 + 5.05}{2}$ = 240 SEC. = 95 C.F.

TOTAL 4" PVC DISCHARGE = 560 CU.FT.
STORAGE = 1120 - 560 = 560 CU.FT.

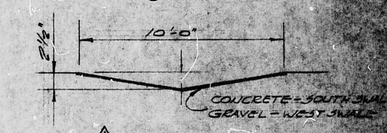
ASSUME POND WITH BOTTOM 10' x 30' = 300 SQ.FT. x 0.70' = 210 CU.FT
TOP 28' x 48' = 1345 SQ.FT - 300 = 1045 x 0.35 = 365 CF

POND VOLUME = 210 + 365 = 575 CU.FT ← USE

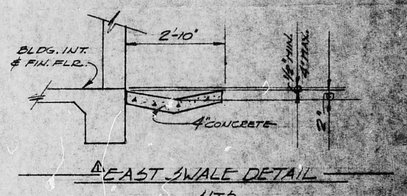
⚠ OFFSITE FLOW: A MINOR AMOUNT MAY OCCUR ACROSS THE SOUTHEAST CORNER OF THE LOT FROM THE EAST. MOST OF THE FLOW FROM AREAS TO THE EAST AND NORTH FLOWS NORTH.

⚠ SWALE HYDRALICS: SWALES 10' WIDE & 0.2' DEEP, A = 1.00 SQ.FT, P = 10.0, R = 0.10
WEST SWALE "n" = 0.025, S = 0.009; Q = 1.0 (1.486/0.025) x 0.215 x 0.095 = 1.21 CFS
= 88% OF TOTAL — SOUTH SWALE "n" = 0.012, OTHER FACTORS SIMILAR, Q = 2.40 CFS
= 176% OF TOTAL — EAST SWALE "n" = 0.012 WITH 2.83' WIDTH x 0.17' DEPTH, A = 0.24 SQ.FT.
P = 3.0, R = 0.080, S = 0.004, Q = 0.24 x (1.486/0.012) x 0.186 x 0.063 = 0.35 CFS = RUNOFF
FOR 2570 SQ.FT. DEVELOPED AREA, WITH 2570 SQ.FT. CONTRIBUTING, = 12% EXCESS CAPACITY.

⚠ EMERGENCY SPILLWAY: A = 10' WIDTH x 0.10' AVG. DEPTH = 0.5 SQ.FT., "n" = 0.012, P = 10.2'
R = 0.25, S = 0.10/18 = 0.006, Q = 0.5 (1.486/0.012) 0.397 x 0.077 = 1.89 CFS



YARD SWALE DETAILS
N.T.S.



EAST SWALE DETAIL
N.T.S.

RECEIVED
FEB 24 1984
HYDROLOGY SECTION

APPROVED FOR DRAINAGE
2/24/84
DATE
SIGNATURE
ADVISE DRAINAGE INSPECTOR WHEN GRADING EXECUTED

⚠ REVISED 2-22-84

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CONSTRUCTION OFFICE & STORAGE	FILE #
For: KEITH SHUETE	DATE
AT: 9909 ACOMA ROAD S.W.	
DRAINAGE PLAN	

DUANE L. LOGAN NEW MEXICO 2300 REGISTERED PROFESSIONAL ENGINEER

DUANE LEE LOGAN N. M. 2300 REGISTERED PROFESSIONAL ENGINEER

L20/D19