



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 29, 1992

Fred Arfman
Isaacson & Arfman
128 Monroe Street NE
Albuquerque, New Mexico 87108

RE: DRAINAGE PLAN FOR THE PET DOCTOR (C-12/D3B2) ENGINEER'S STAMP DATED APRIL 2, 1992

Dear Mr. Arfman:

Based on the information provided on your April 2, 1992 resubmittal, the above referenced site is approved for Building Permit. Please be advised that prior to Certificate of Occupancy release Engineer Certification per the D.P.M. checklist will be required.

Please attach a copy of this approved plan to the construction sets prior to sign off by Hydrology.

If I can be of further assistance, please feel free to contact me at 768-2650.

Sincerely,

Bernie J. Montoya
Bernie J. Montoya, CE
Engineering Assistant

BJM:jc
WP+2965

PUBLIC WORKS DEPARTMENT

1. HYDRAULICS FOR 3-4" PVC PIPES. YOU ARE ALLOWED TO DISCHARGE ONLY 1.67 CFS APR 2 1992

SOLUTION: SOLVE FOR SINGLE 4" ϕ PIPE WHERE
 $Q = \frac{1.67 \text{ CFS}}{3} = 0.56 \text{ CFS}$

SELECT AN OUTFLOW PIPE FROM THE ORIFICE FORMULA THAT WILL YIELD THE ALLOWABLE OUTFLOW OF $> 0.56 \text{ CFS}$ UNDER A HEAD OF 1.0 FEET.

$$Q = C \sqrt{2gh} \quad \text{WHERE } C = 0.80 \text{ FROM TABLE 4-10, HANDBOOK OF HYDRAULICS KING AND BRATER, 1962}$$

SOLVING FOR a

$$a = \frac{Q}{C \sqrt{2gh}} = \frac{0.56}{0.80 \sqrt{2(32.2)(1.0)}} = 0.057 \text{ FT}^2$$

$$\text{AREA OF 4" } \phi \text{ PVC PIPE} = 0.0876 \text{ FT}^2$$

GOOD

3 PIPE WILL THEREFORE RELEASE
 $3 \times 0.56 \text{ CFS} = 1.67 \text{ CFS}$
 UNDER ONE FOOT OF HEAD.

2. TYPICAL POND SECTIONS INCLUDES SPOT ELEVATIONS AND THE 100 YR. WATER SURFACE ELEVATION.
 (SEE ATTACHED DRAWING)

3. INCLUDE THE CALCULATIONS FOR THE EMERGENCY SPILLWAY!!

SOLUTION: SOLVING FOR A "BROAD CRESTED WEIR" DUE TO THE MINIMAL DEPTH.

$$Q = C B H^{3/2} \quad \text{WHERE } C = 2.7, B = 4', H = 0.30'$$

$$SF = \frac{0.56'}{0.30'} = 1.67$$

$$Q = (2.7)(4')(0.3')^{1.5}$$

$$= 1.77 > 1.67 (\text{TOTAL } Q_{\text{req}}) = \text{O.K.}$$

59.8

APR 2 1992

NOTE: DISCHARGED
FLOWS ALLOWED TO
CROSS DOWNGRADE
DROPPED FOR
AGREEMENT.

S 32°27'40" W

3-4" PVC PIPE
SLEEVE, 12" OC
INV = 59.6
POND CONTAINMENT WALL
TO HAVE A SINGLE 4'
WIDE BY 6" DEEP OVER-
FLOW WEIR CENTERED
OVER OUTLET PIPES

TC
61.1

60.4

61

GRAVEL

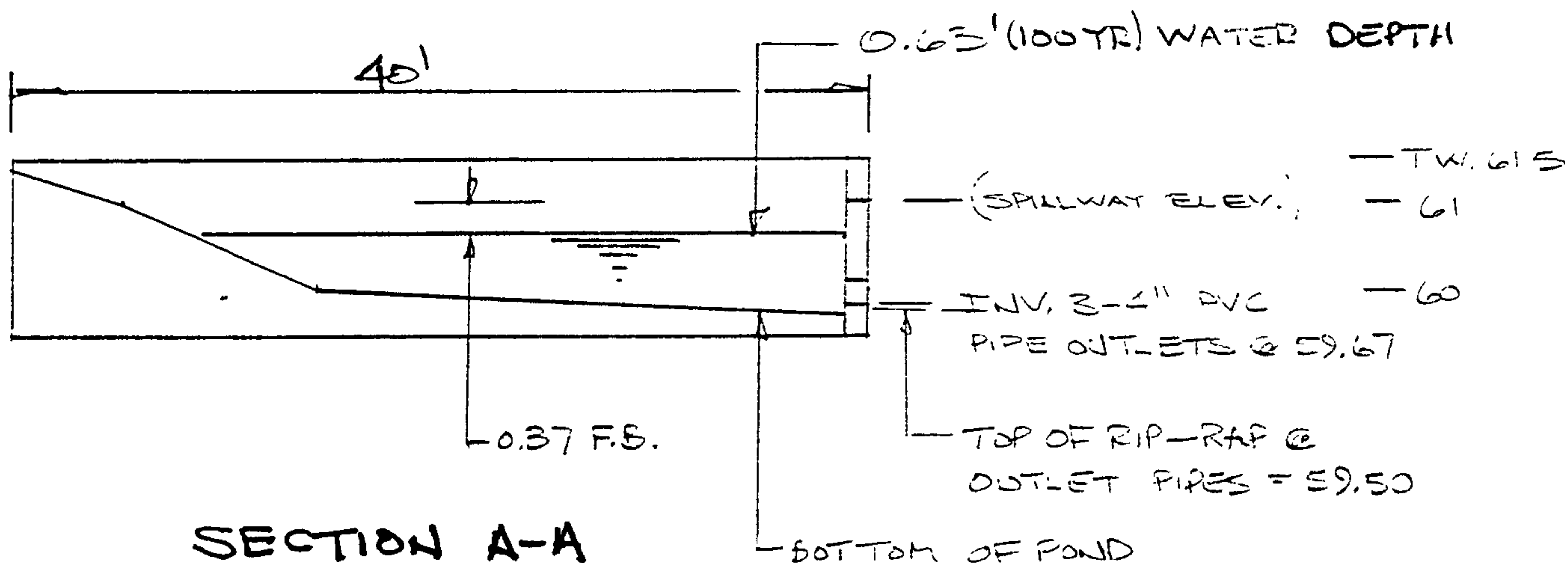
POND
BOTTOM

60

TW=61.5
(typ.)

60.0

59.2



SECTION A-A
1" = 10' 0"

ISAACSON & ARFMAN, P.A.

THE PET DOCTOR
SUBJECT 1-5-8-1-B-1-A.M. JOB NO.
BY PCA DATE 3-92 SHEET NO. OF