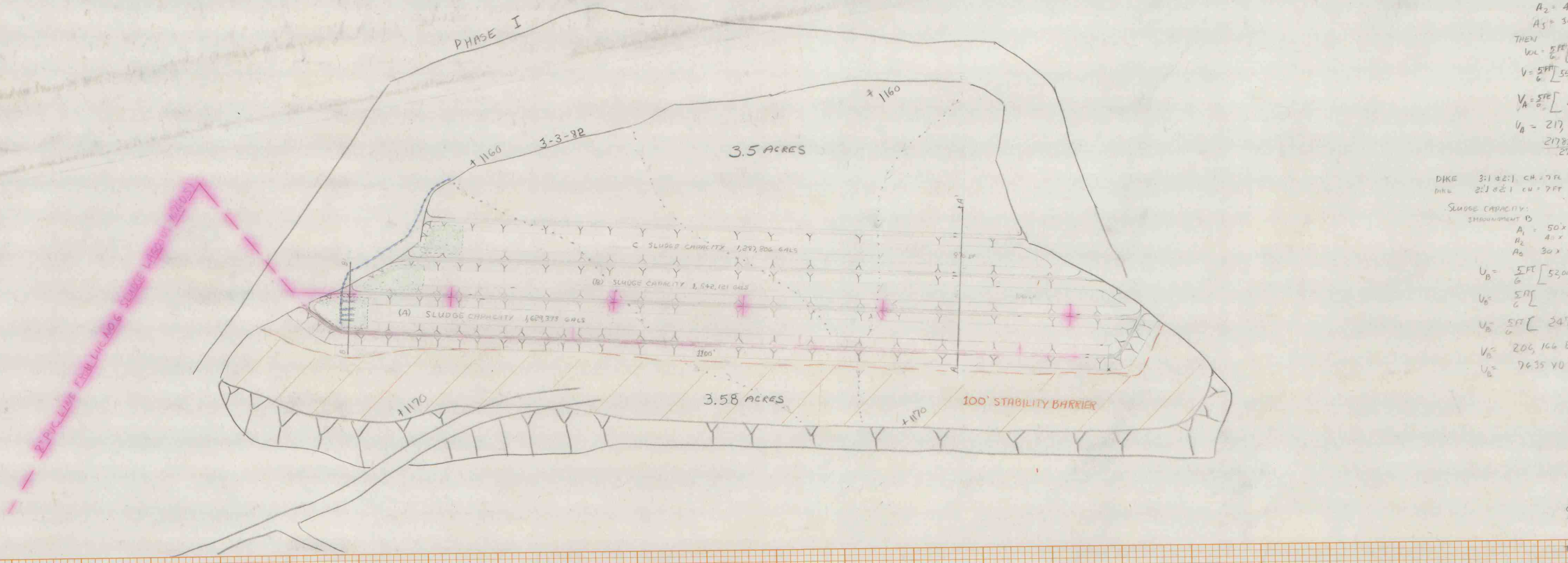
PROPOSAL NO 2

PLAN	
NOTE BOOK	SURVEYED
NO.	PLOTTED
	ALIGNMENT CHECKED
	RT. OF WAY CHECKED



TOTAL 12.6 AC

SLUDGE CAPACITY
IMPOUNDMENT A
GIVEN: d = 5'
W = 50
L = 1100'

$A_1 = 50 \times 1100 = 55000\ ft^2$
$A_2 = 40 \times 1090 = 43600\ ft^2$
$A_3 = 30 \times 1080 = 32,400\ ft^2$

$VOL = \frac{d}{6} \times (A_1 + 4A_2 + A_3)$

Given d = 5 Feet

THEN
$VOL = \frac{5\,ft}{6}[55,000\,ft^2 + 4(43,600\,ft^2) + 32,400\,ft^2]$
$V = \frac{5\,ft}{6}[55,000\,ft^2 + 174,000\,ft^2 + 32,400\,ft^2]$
$V_A = \frac{5\,ft}{6}[261,400\,ft^2]$
$V_A = 217,833\,ft^3 \times 7.48\,\frac{GALS}{ft^3} = 1,629,393$ GALS
$\frac{217,833\,ft^3}{27\,ft^3/YD^3} = 8,067\,YD^3$

DIKE 3:1 & 2:1 CH. = 7 Ft 6.1 YD^3/LF
DIKE 2:1 & 2:1 CH = 7 FT 4.9 YD^3/LF

SLUDGE CAPACITY:
IMPOUNDMENT B
$A_1 = 50' \times 1040' = 52,000\ FT^2$
$A_2 = 40 \times 1030 = 41,200\ FT^2$
$A_3 = 30 \times 1020' = 30,600\ FT^2$

$V_B = \frac{5\,FT}{6}[52,000\,FT^2 + 4(41,200\,FT^2) + 30,600\,FT^2]$
$V_B = \frac{5\,FT}{6}[\quad 164,800\,FT^2 + 30,600$
$V_B = \frac{5\,FT}{6}[247,400\,FT^2]$
$V_B = 206,166\,FT^3 \times 7.48\,\frac{GALS}{FT^3} = 1,542,121$ GALS
$V_B = 7635\,YD^3$

SCALE 1" = 100' RFJ. 1-16-82

PROFILE	
NOTE BOOK	SURVEYED
NO.	PLOTTED
	GRADES CHECKED
	B. M. NOTED
	STRUCTURE NOTATIONS CHK'D

X SECTION DIKES
CENTER HEIGHT 7' 7'
6 FEET WIDE TOP WIDTH 6'
6.1 YD^3/LF 6.1
6.1 YD^3/LF × 1100 LF = 6710 YD^3

SLUDGE CAPACITY
IMPOUNDMENT C
$A_1 = 50 \times 870 = 43,500\ FT^2$
$A_2 = 40 \times 860 = 34,400\ FT^2$
$A_3 = 30 \times 850 = 25,500\ FT^2$

$V_C = \frac{5\,FT}{6}[43,500 + 4(34,400) + 25,500]$
$V_C = \frac{5\,FT}{6}[43,500 + 137,600 + 25,500]$
$V_C = \frac{5\,FT}{6}[206,600\,FT^2]$
$V_C = 172,166\,FT^3 \times 7.48\,\frac{GALS}{FT^3}$ 1,287,806 GALS
$V_C = 6,376\,YD^3$

TOTAL SLUDGE CAP = $V_A + V_B + V_C$
= 1,629,393 + 1,542,121 + 1,287,806
= 4,459,320 GALS

TOTAL VOL OF DIKE MATERIAL
A = 8067 YD^3
B = 7635 YD^3
C = 6376 YD^3
22,078 YD^3

$22,078\,YD^3 \times 27\,\frac{ft^3}{YD^3} \times {}^{*}\frac{120\,lbs}{ft^3} \times \frac{1\,TON}{2000\,lbs} = 35,766$ TONS

* COMPACTION DENSITY = 120 lb/ft³

Center Height 7'
6 FEET WIDE TOP WIDTH
Sludge Depth 5'
6.1 YD^3/LF

SCALE = 1" = 10' VERT & HORZ.

PLATE 4 CROSS SECTION - PLAN
CHARLES BRUNING COMPANY
MADE IN U.S.A.

2550 A V & H SCALE 1" = 10'

RFJ 1-16-82

IMAPS# 15123