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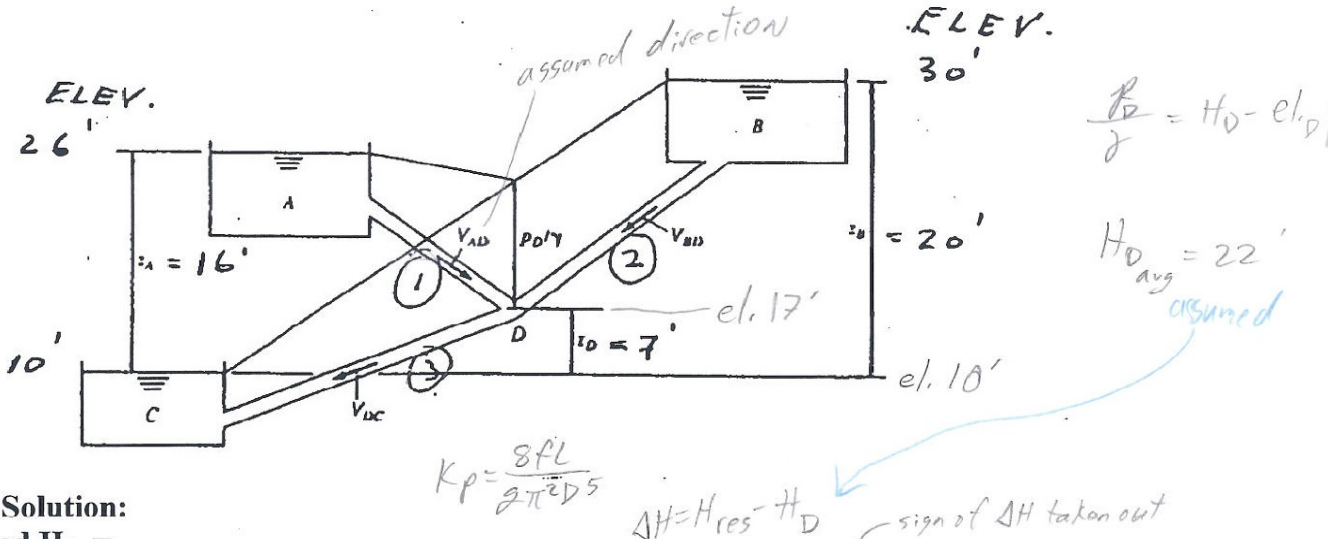
Three Reservoir Problem

Assignment 11.1

Three reservoirs (A, B, C) connected at a common point (D) as shown on the following page. Pipes are numbered as # 1 A-D

2 B-D

3 C-D



Solution:

Assumed  $H_D =$

Pipe #	D ft diameter	F friction	L ft length	g	Kp	$\Delta H$ ft Head loss	Q cfs $= \pm \sqrt{\frac{\Delta H}{Kp}}$	RES	H ft height
1	1	0.025	2000	32.2	1.26	26-22=4	1.78	A	26
2	1	0.025	2000	32.2	1.26	30-22=8	2.52	B	30
3	1.5	0.022	3000	32.2	0.219	10-22=-12	(-7.4)	C	10
							$\Sigma (-3.1)$		

(should be  $\neq$  Try  $H_D = 17'$  (pressure = 0 @ D))

Assumed  $H_D =$

Pipe #	D ft	F	L ft	g	Kp	$\Delta H$ ft	Q cfs	RES	H ft
1	1	0.025	2000	32.2	1.26	9	2.67	A	26
2	1	0.025	2000	32.2	1.26	13	3.21	B	30
3	1.5	0.022	3000	32.2	0.219	(-7)	(-5.65)	C	10
							$\Sigma +0.23 \neq 0$		

try  $H_D = 17.4$

Assumed  $H_D =$

Pipe #	D ft	F	L ft	g	Kp	$\Delta H$ ft	Q cfs	RES	H ft
1	1	0.025	2000	32.2	1.26	8.6	2.613	A	26
2	1	0.025	2000	32.2	1.26	12.6	3.162	B	30
3	1.5	0.022	3000	32.2	0.219	(-7.4)	(-5.813)	C	10
							$\Sigma (-0.038)$		