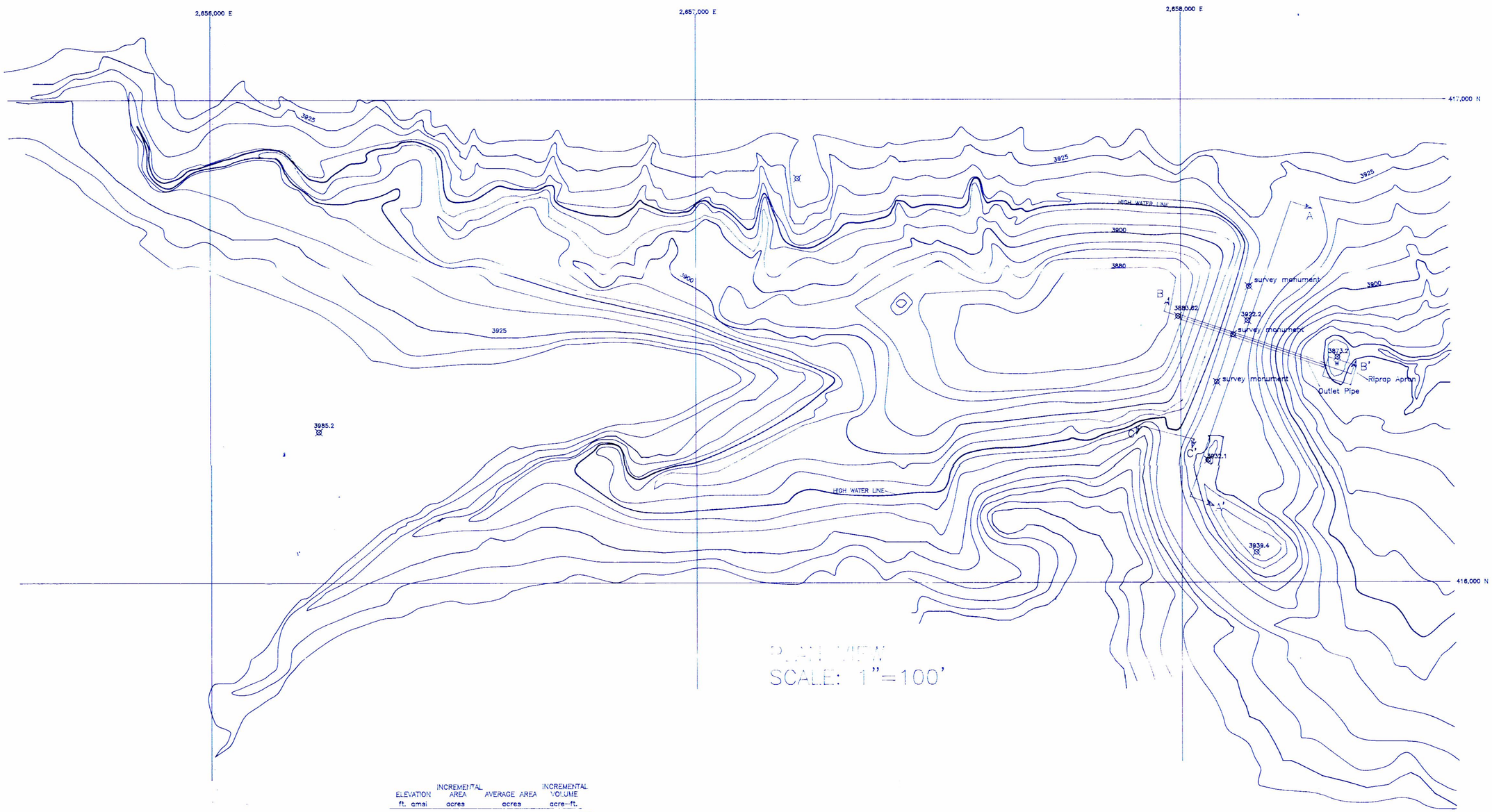


PLAN VIEW
SCALE: 1"=100'

ELEVATION ft. amsl	INCREMENTAL AREA acres	AVERAGE AREA acres	INCREMENTAL VOLUME acre-ft.	
3880	1.64		0	Dead Storage
3885	2.75	2.19	10.95	
3890	3.79	3.27	16.35	Active Capacity
3895	5.21	4.50	22.50	
3900	7.32	6.27	31.35	
3905	10.68	9.00	45.00	
3910	14.41	12.04	62.73	
3912.7	17.77	16.09	43.44	
		TOTAL CAPACITY	232.32 AC. FT.	

MONTANA
BRUCE N. NELSON
Registered
PROFESSIONAL ENGINEER

I, Bruce N. Nelson, hereby state that the construction of the South Fork Flood Control Reservoir, based on information provided to me by Spring Creek Coal Company, and based upon topographic maps provided by Spring Creek Coal Company prepared from areal photography dated 4/12/94 by Hartzens, Inc. of Rapid City, SD, was constructed as shown in the drawings shown here and on Sheet 2 of 2. I further certify that this map is correct and shows to the best of my knowlege and belief all the information required by the mining laws of this state.

Bruce N. Nelson, P.E. #8663E — 4/2/95 Date

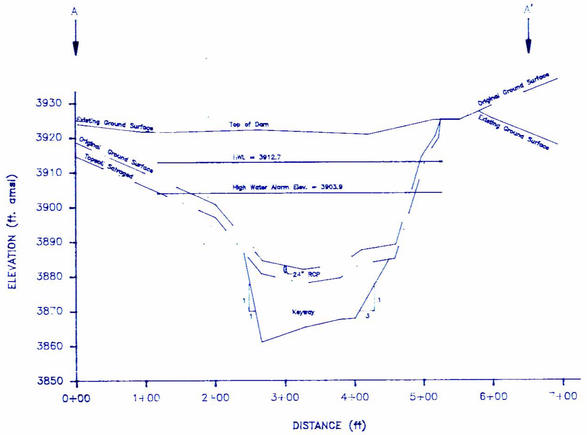
DRN : BNN	DATE	1/26/95
CKD:		
APPROVALS		

SPRING CREEK COAL

SOUTH FORK FLOOD CONTROL DAM

AS--BUILT

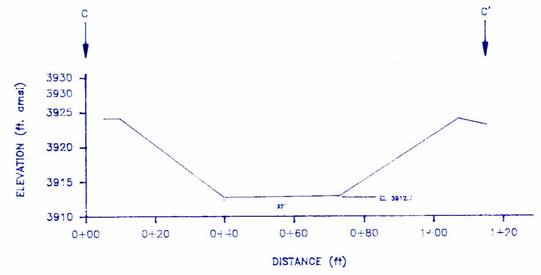
SCALE : 1" = 100' | AUTOCAD SFFLOOD.DWG | SHEET 1 OF 2



DAM PROFILE SECTION A – A'

(SEE SHEET 1 OF 2 FOR LOCATION OF CROSS SECTION)

SCALE: VERT. 1" = 20'
HOR. 1" = 100'



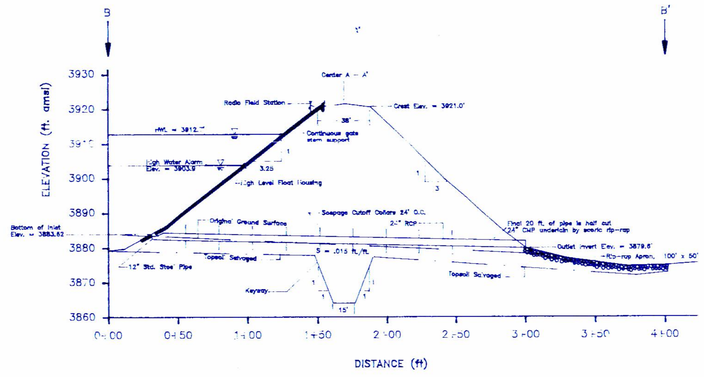
EMERGENCY SPIILLWAY CROSS SECTION C – C'

(SEE SHEET 1 OF 2 FOR LOCATION OF CROSS SECTION)

SCALE: VERT. 1" = 10'
HOR. 1" = 20'

EMERGENCY SPILLWAY HYDRAULICS

CONTROL SECTION	TRANSPORT SECTION	
Q = CLH exp 1.5	Q = 1.49/n (AR)exp 2/3)(S)exp1/2	
Q100-24 = 990 cfs	n = 0.035	A = 173.0 sq. ft.
L = 50 ft.	S = 0.004 ft/ft	WP = 55.9 ft.
HP = 4.2 ft.	Z = 3H:1V	R = 3.1 ft
	Q = 990 cfs	V = 5.7 fps
	b = 37 ft.	Yn = 4.1 ft.



DAM CROSS SECTION B – B'

(SEE SHEET 1 OF 2 FOR LOCATION OF CROSS SECTION)

SCALE: VERT. 1" = 20'
HOR. 1" = 50'

NOTE: All cross section depictions are based upon as built descriptions provided by Spring Creek Coal Company Staff who participated in the construction oversight and documentation. All field layout and field supervision, construction documentation and surveying of the dam construction was conducted by Spring Creek Coal Company staff.

DRN : BNN	DATE	1/26/95
CKD:		
APPROVALS		
SPRING CREEK COAL		

SOUTH FORK FLOOD CONTROL DAM CROSS SECTIONS

AS-BUILT

SCALE : As Noted | AUTOCAD SFFLXSEC.DWG | SHEET 2 OF 2