

H. C. LEWIS DIRECTOR OF THE RIVER, NOV 1948

R. H. WILSON, CHIEF DESIGNER (STRUCTURE AND EQUIPMENT), NOV 1948

July 12, 1947

MEMORANDUM TO THE DIRECTOR - ALLEN DIVISION

On July 11, 1947, J. F. Miller Stevens and George J. Stevens left with Major General, Jr., and Captain Johnson of River Protection and Bedford Brown, Assistant Superintendent, and Robert Scott, Mechanical Supervisor, of the Kingston Steam Plant at Kingston Power Plant for an inspection of the sea dikes.

All dikes look to be in good shape. There is very little erosion by wave action on the outside slopes which are about 6:1. Slight wave action erosion has occurred on the inside but is not serious. All the dikes, with the exception of 200 to 300 feet on the south end of the west dike, are made of earth with a roadway surface of sand. The south end of the west dike for about 200 to 300 feet is composed entirely of sand, but has flat slopes and has withstand the wave action as good, if not better, than the earth dikes. Vegetation has been established on the dikes except where the dikes are made of sand.

At the time of our visit the people at the plant were talking about a 3-foot increase in the elevation of the water on the inside of the dikes. This would require raising of the dikes to prevent the 100-foot waves that have been shown as soon overtopping the dikes. Even a 6-foot increase in water elevation without raising the dike would reduce the river level below a safe minimum. The reason for raising the water level was understood to be to provide more dilution. When additional depth is proved to be required, the depth of water on the inside should be kept about as it now is, in order to minimize wave action and load against the dikes.

Both pipe spillways are flowing full at the top with water only a few inches above the lip and seem to have no difficulty in taking care of the water that is discharged into the pool. Consideration should be given to installing an additional outlet to allow controlling or reducing the inside water heights. At the present time the job at the end of the dike pipes is being worked by mechanical equipment. The recommendation was made that an immediate start be made on raising the dikes. We will make a revision on the 10000 drawing giving specifications for raising the dikes.

M. R. BREWER
TVA - MURKIN

REVIEW OF SPILLWAY AND DRAINAGE

On July 2, 1967, there was approximately one foot of the dam at Spillway and from 3-1/2 to 4 feet above. The bottom outlet with the rest, but usually in this partially open at the top. A square wooden timber floating on sand bags (see photo) is used here instead of the circular metal type we have designed. We see no objection to the wood type except this one does not extend far enough below and above the water level to hold back floating debris.

The outlets of the pipe culverts under the new railroad and River Road had their discharge into the cut bank are considerably lower than the ultimate top of bank and special precautions will have to be made to keep them open when the cut reaches their outlet elevation which will not be too many times. NOT in view of this situation, but our plan will be revised to show recommended solution.

An inspection of the pavement was made along the various highway and truck roads. The pavement was in fair shape with the asphalt concrete showing signs of impending failure at places where loops and valleys were present. The Portland cement concrete pavement was in excellent condition except at the point where the asphalt concrete ends and the Portland cement concrete begins (see attached photos). One corner of the concrete pavement is badly broken.

In summary, the filters show no signs of being in any danger of failure provided proper cross section is used in raising them to higher elevations. The shrimps at the spillways should be made more effective.

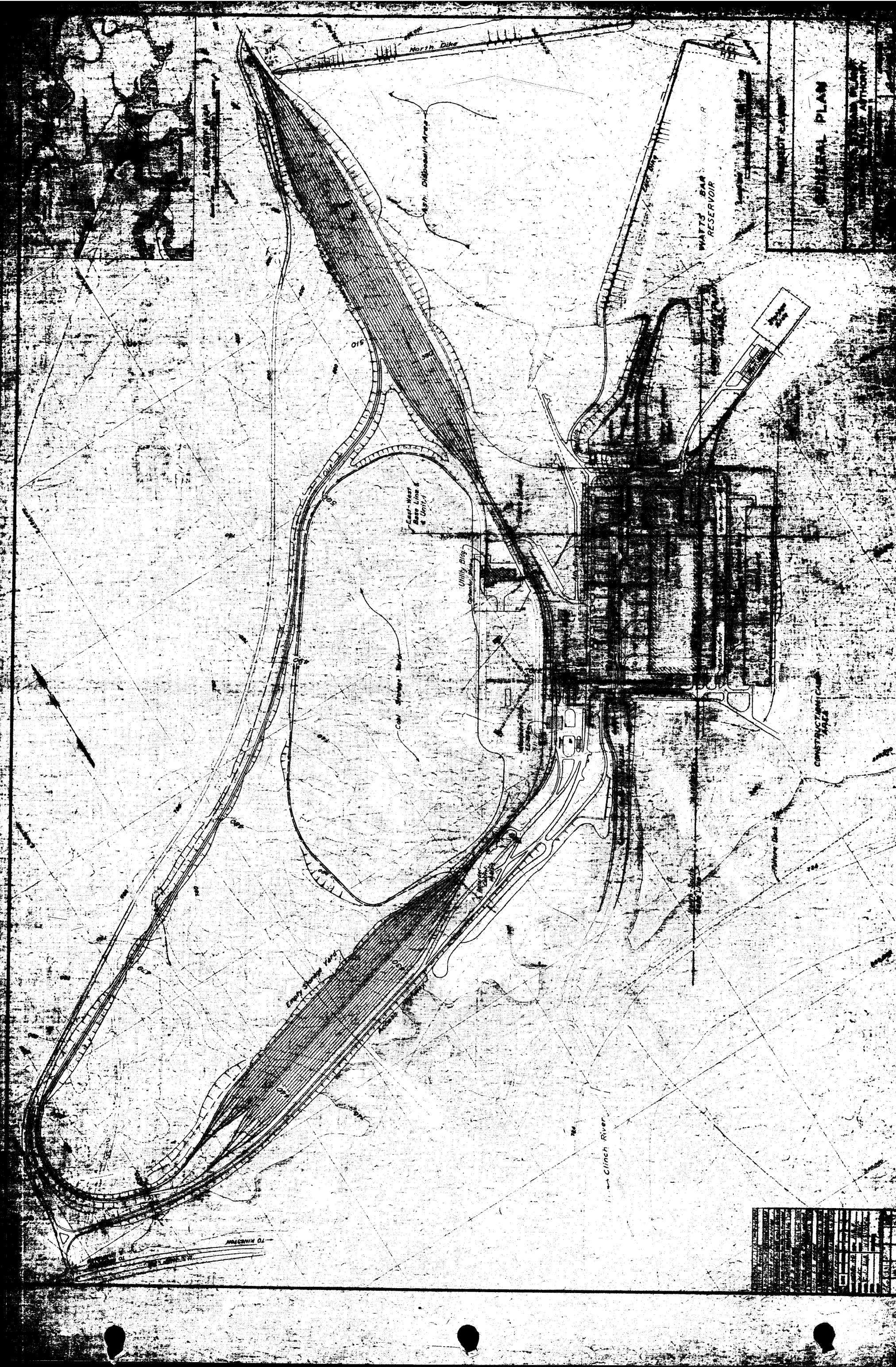
J. R. BREWER

~~5700-200-1007~~

Attachments

CC (Attachments):

Malga Brewer, Jr., 1002 M, Chattanooga
J. R. Parrish, 307 RR

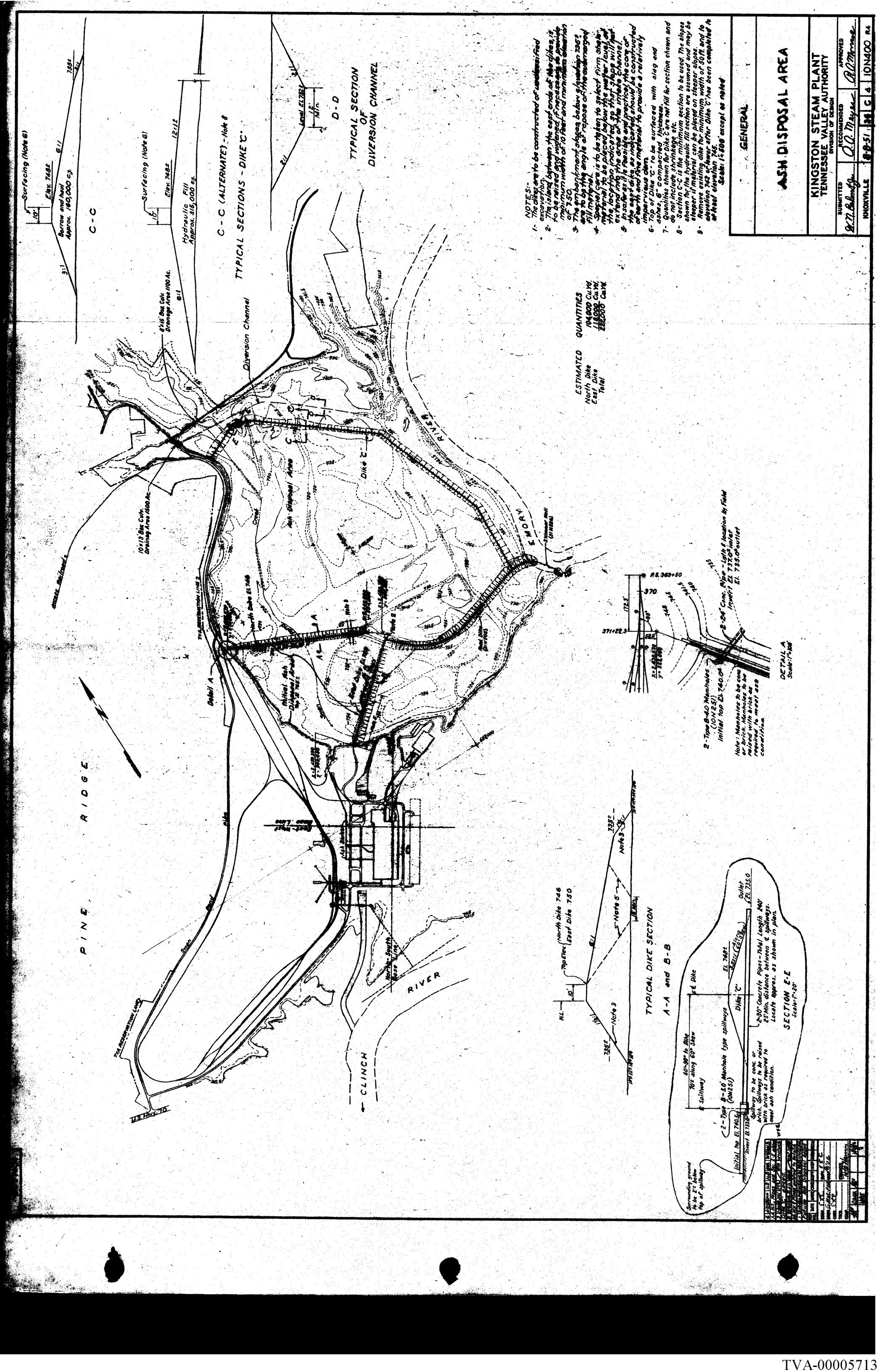


THE FIRST PLAN

CONSTANTINE

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TVA-00005712



GENERAL PLAN

PROJECT EIGHT

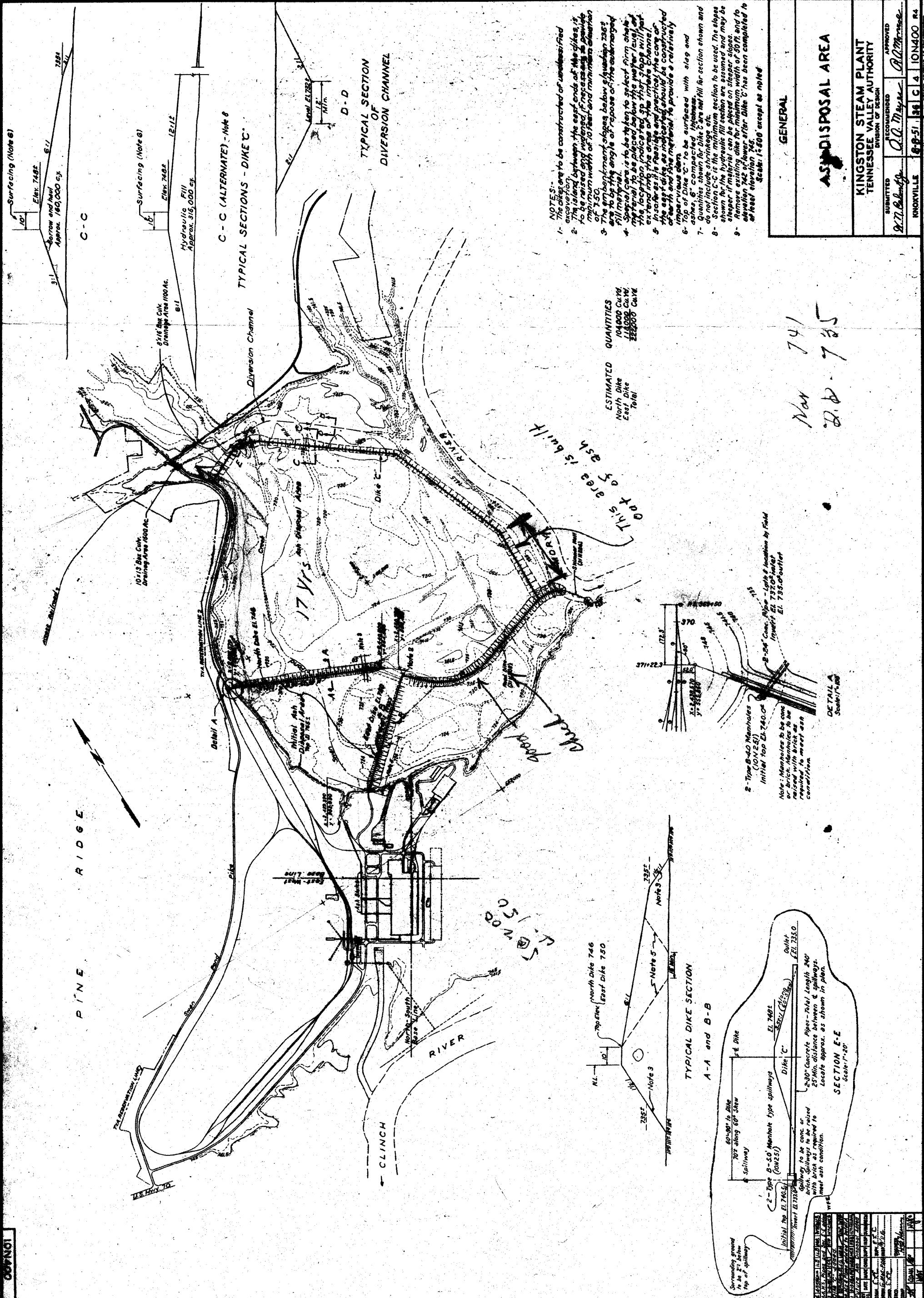
DO NOT USE AROUND EQUIPMENT

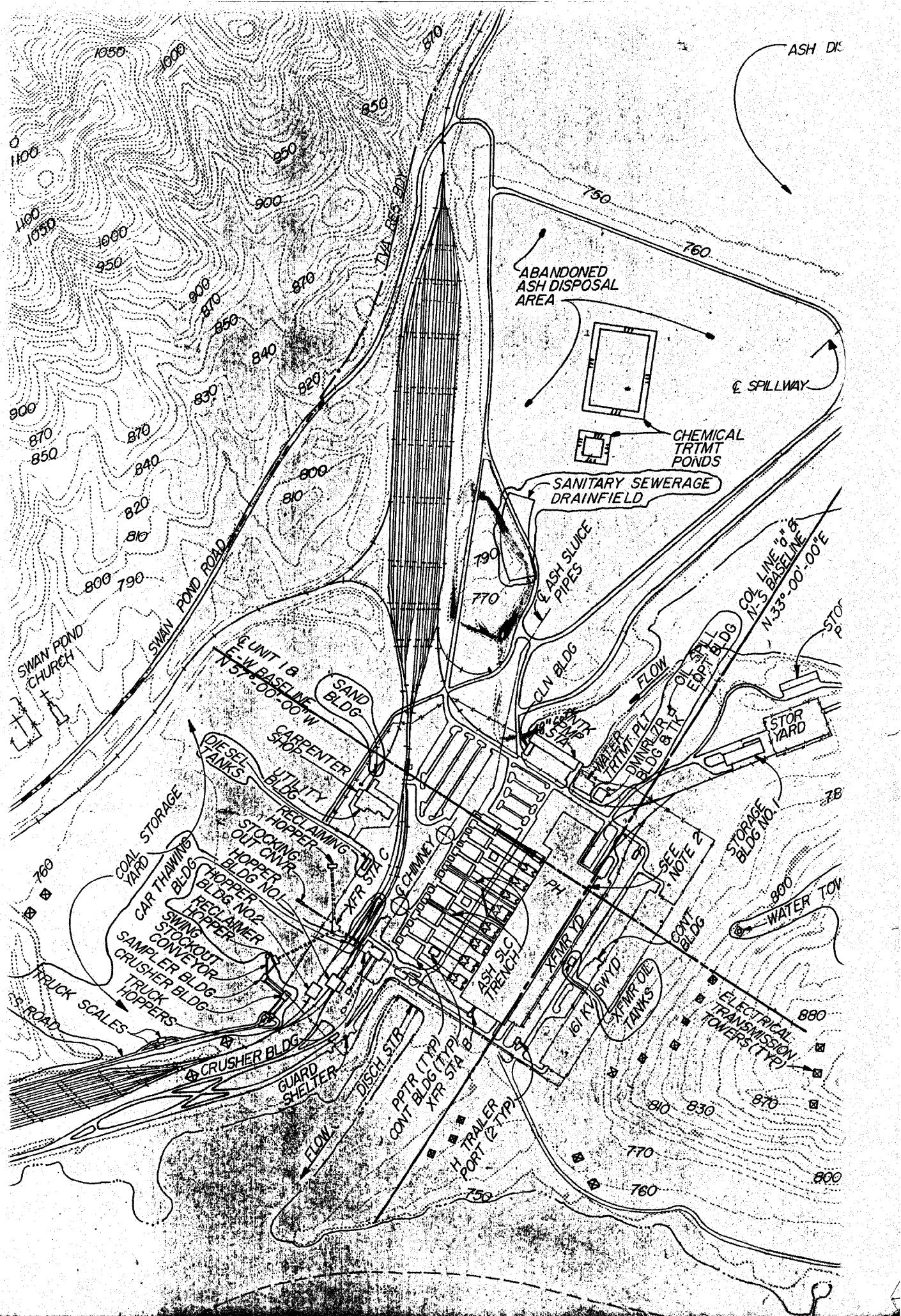
DANGER
GONDOLAIVE PAPER

PROJECT EIGHT
SURVEYED 1
ECONOMIC 1
DIVISION OF DESIGN
TENNESSEE VALLEY AUTHORITY
KINSEYON ST CLAM PLANT

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TVA-00005716



Flat slopes inside and outside of dike
7-3-67

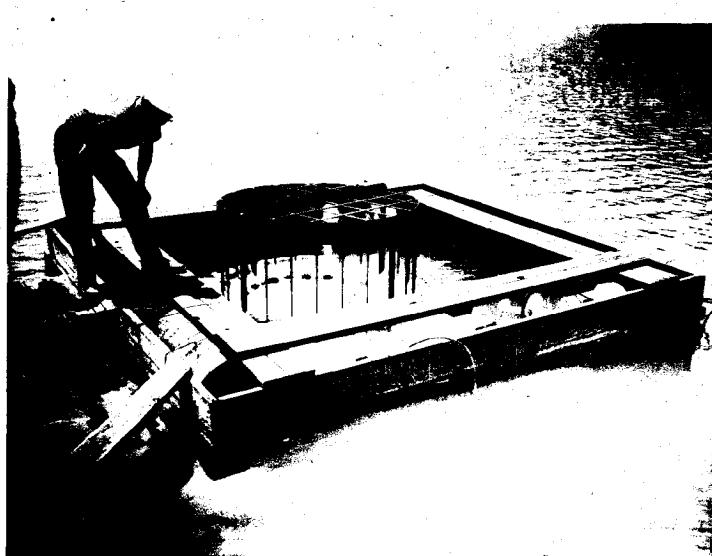


Kingston
Wave action inside dike cuts back into fill.
7-3-67



Point where asphaltic concrete joins
Portland cement concrete showing break

Kingston S.R.



Pictures showing Spillway inside Reservoir.
Structure is too short to extend far enough across the reservoir to skim off all ash and to prevent debris from going over. 7-3-67

Kingston S.P.

TVA-00005719