[illegible], Director of [illegible] Production, [illegible]

J. [illegible], Director of Engineering Design, [illegible]

SEP 28 1974

[illegible]

Attached is a memorandum report from J. [illegible] dated September [illegible], 1974, of the September [illegible] field inspection [illegible] which includes recommendations for corrective work. I concur in these recommendations.

J. [illegible]

[illegible]
Attachment
CC: [illegible] - w/2 attachments
Power Manager's Files, [illegible]

[illegible], Head Civil Engineer (Highway and Railroad), [illegible]

J. F. E. [illegible], Civil Engineer (Highway and Railroad), [illegible]

September [illegible], 1973

KINGSTON STEAM PLANT - ANNUAL ASH DISPOSAL AREA INSPECTION

On September 1, 1973, [illegible] of [illegible] in Chattanooga; [illegible], Assistant Plant Superintendent; [illegible], Assistant Mechanical Supervisor; and I inspected the ash disposal areas at Kingston Steam Plant and discussed our findings with A. C. Spencer, Plant Superintendent.

The attached print of drawing [illegible] shows the areas described and locations of pictures taken.

In general, the dikes are in good condition with no evident stability problems. The original dikes were constructed with earth. The dikes around the initial ash area were raised with ash.

The operation of the area has changed since last year. The sluice line still discharges into the initial area; but instead of going straight to the spillways of the initial area into the main area as before, most of the ash settles out in areas excavated by draglines for dry hauling. The water then goes through the spillways into the main area, then into Watts Bar Lake through two standard spillways. The effluent is very clear and the outfalls provide an excellent place to fish (picture 4).

Ash is being dry hauled from the initial area to the area adjacent to and north of the north dike.

The ash is excavated by draglines near the outfall, piled on top of the dike, allowed to dry, then hauled with earthmoving equipment and deposited as shown on the attached sketch.

Plant personnel have completed grassing slopes of the dikes that were constructed with earth as recommended in last year's report. They are continuing to remove the trash from the outside slopes of dike C as it is deposited by Watts Bar Lake.

All dikes have been raised to provide a minimum 4-foot freeboard between the water surface and the top of the dikes with the top kept smooth and sloped to the inside.

Widening of dike C to provide a base for future raising has progressed to near the spillways and should be completed.

[illegible]
September [illegible], 197[illegible]

KINGSTON STEAM PLANT - [illegible] AREA [illegible]

The north dike of the initial area has been widened and raised to additional height to ten feet. The north slope and top of the north dike have been covered with four to six inches of soil, limed, fertilized, and seeded (pictures 1 and 2).

Our recommendations are:

1. Continue to operate the ash areas as is now being done, but care should be used to insure that the ash that has not settled out in the initial area does not fill the main area before the road dike and dike 6 are raised.

2. Complete the widening of dike 6 to form the base for future raising.

J. F. R. [illegible]

[illegible]
Attachments

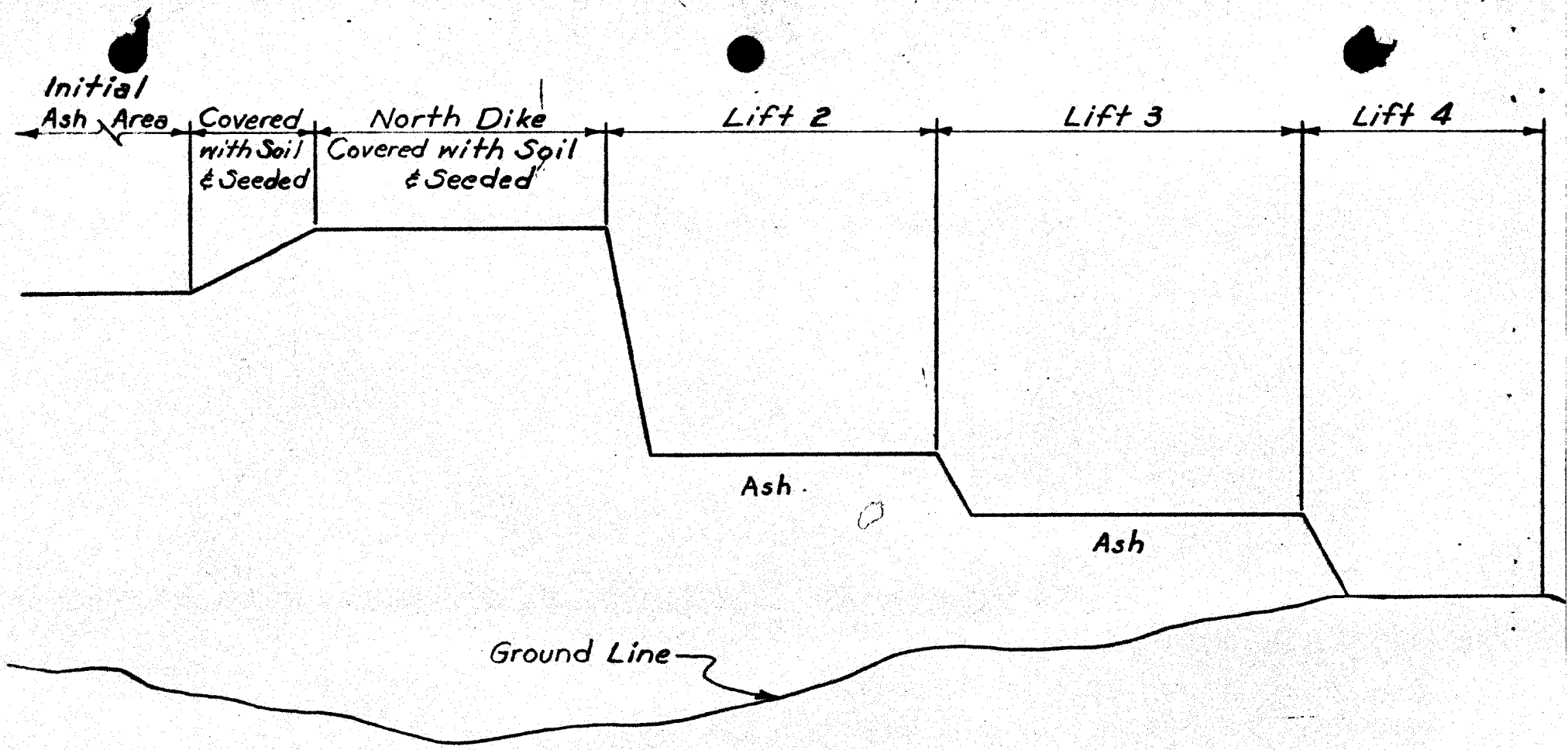
Concur:

[illegible]

[illegible]

[illegible]—9/[illegible]/72
CC (Attachments):
[illegible]

[illegible]—9/[illegible]/72
CC (Attachments):
[illegible]

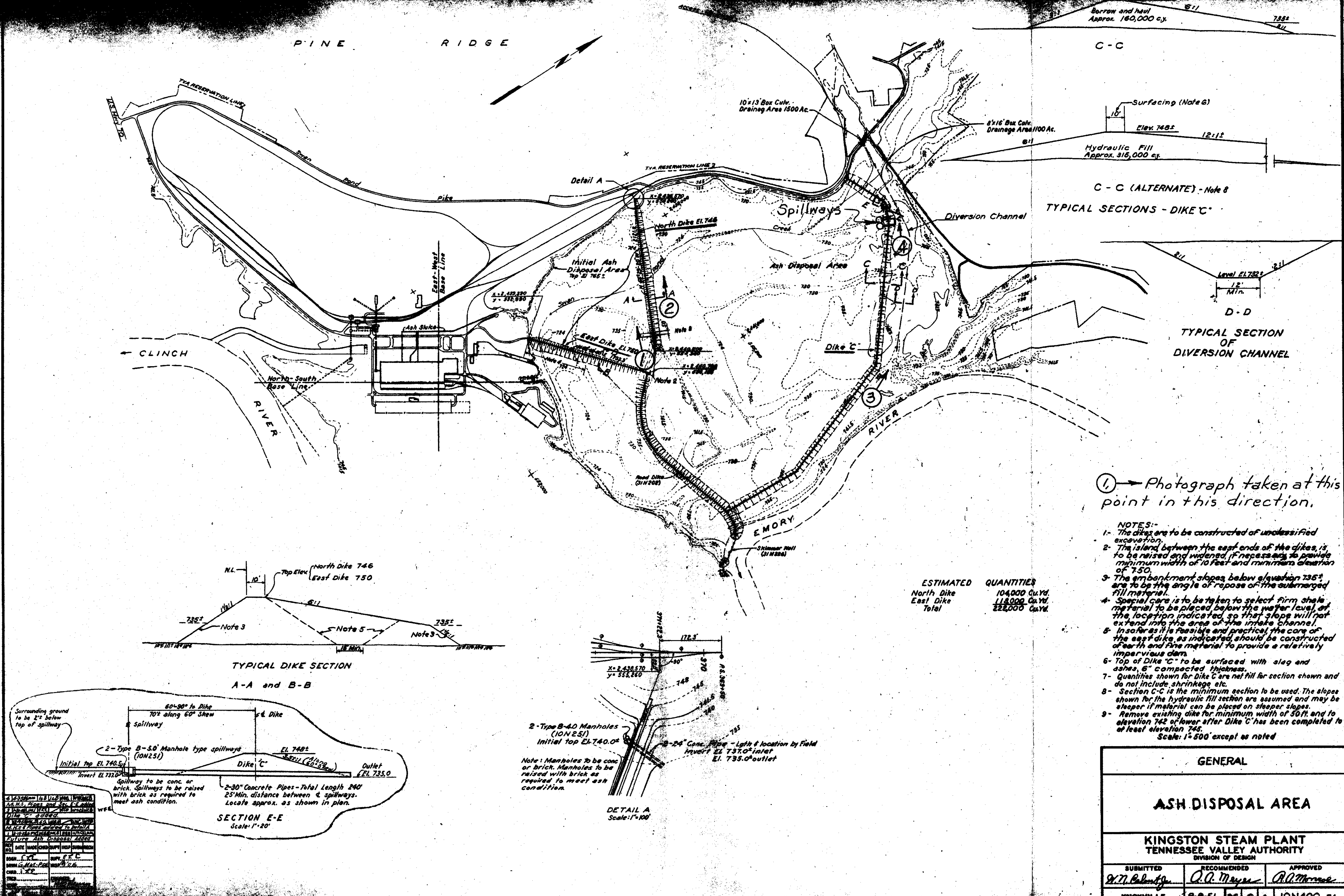


Note: Lifts 2, 3 and 4 will be covered with soil, fertilized, limed and seeded when they reach the elevation of the North Dike.

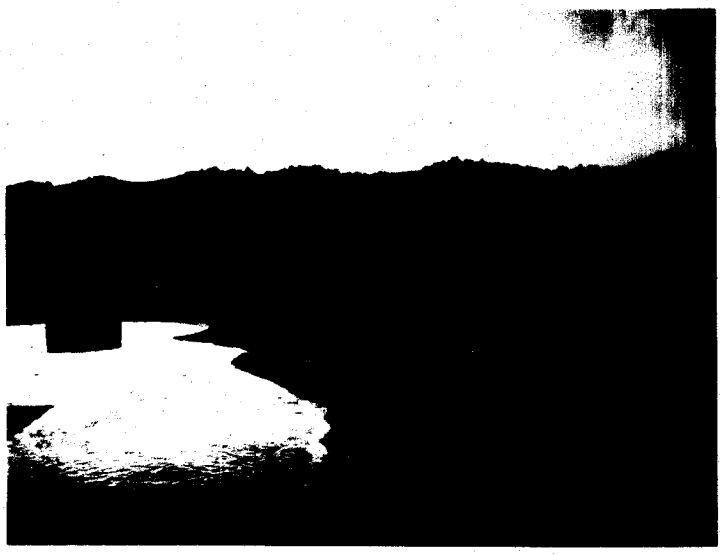
SECTION THROUGH NORTH DIKE AND STORAGE AREA

N.T.S.

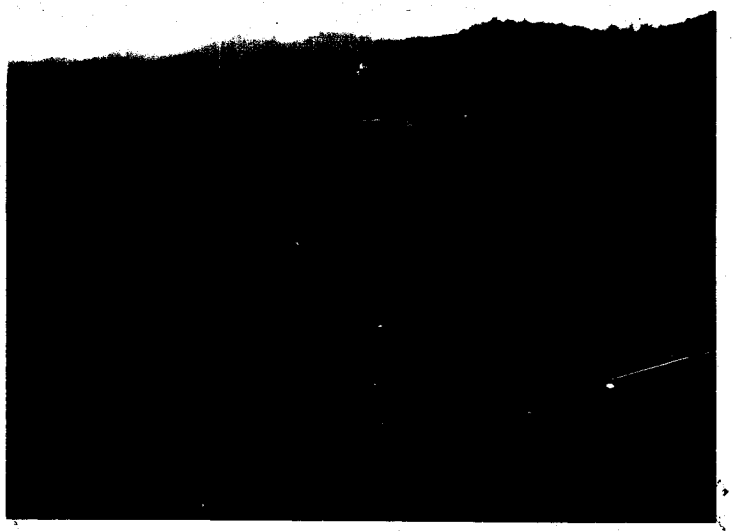
KINGSTON STEAM PLANT


PINE RIDGE
CLINCH RIVER
EMORY RIVER
TVA RESERVATION LINE
U.S. Hwy 70
Swan Pond Pike
Detail A
North Dike El. 746
East Dike El. 750
Initial Ash Disposal Area Top El 765±
Ash Disposal Area
Spillways
Creek
Dike "C"
Diversion Channel
10'x13' Box Culv. Drainage Area 1500 Ac.
8'x16' Box Culv. Drainage Area 1100 Ac.
East-West Base Line
North-South Base Line
Ash Sluice
Skimmer Wall
Note 2
Note 8
Borrow and haul Approx. 160,000 c.y.
C-C
Surfacing (Note 6)
Elev. 748±
12:1±
Hydraulic Fill Approx. 316,000 c.y.
C-C (ALTERNATE) - Note 8
TYPICAL SECTIONS - DIKE "C"
Level El. 732±
12' Min.
D-D
TYPICAL SECTION OF DIVERSION CHANNEL
(1) → Photograph taken at this point in this direction.
NOTES:-
1- The dikes are to be constructed of unclassified excavation.
2- The island between the east ends of the dikes, is to be raised and widened, if necessary to provide minimum width of 10 feet and minimum elevation of 750.
3- The embankment slopes below elevation 735±, are to be the angle of repose of the submerged fill material.
4- Special care is to be taken to select firm shale material to be placed below the water level, at the location indicated, so that slope will not extend into the area of the intake channel.
5- Insofar as it is feasible and practical, the core of the east dike as indicated, should be constructed of earth and fine material to provide a relatively impervious dam.
6- Top of Dike "C" to be surfaced with slag and ashes, 6" compacted thickness.
7- Quantities shown for Dike "C" are net fill for section shown and do not include shrinkage etc.
8- Section C-C is the minimum section to be used. The slopes shown for the hydraulic fill section are assumed and may be steeper if material can be placed on steeper slopes.
9- Remove existing dike for minimum width of 50 ft. and to elevation 742 or lower after Dike "C" has been completed to at least elevation 745.
Scale: 1"=500' except as noted
ESTIMATED QUANTITIES
North Dike 104,000 Cu.Yd.
East Dike 118,000 Cu.Yd.
Total 222,000 Cu.Yd.
N.L.
10'
Top Elev. North Dike 746 East Dike 750
6:1
735±
Note 3
Note 5
TYPICAL DIKE SECTION
A-A and B-B
Surrounding ground to be 2'± below top of spillway
60'-90' to Dike
70'± along 60° Skew
℄ Dike
℄ Spillway
2-Type B-5.0' Manhole type spillways (10N251)
EL 748±
Dike "C"
Initial top El. 740.5
Invert El. 732.0
Outlet El. 735.0
Spillway to be conc. or brick. Spillways to be raised with brick as required to meet ash condition.
2-30" Concrete Pipes - Total Length 240' 25' Min. distance between ℄ spillways. Locate approx. as shown in plan.
SECTION E-E
Scale: 1"=20'
2-Type B-4.0 Manholes (10N251) Initial top El. 740.0±
Note: Manholes to be conc. or brick. Manholes to be raised with brick as required to meet ash condition.
2-24" Conc. Pipe - Lgth & location by Field Invert El. 737.0± inlet El. 735.0± outlet
172.5'
DETAIL A
Scale: 1"=100'
GENERAL
ASH DISPOSAL AREA
KINGSTON STEAM PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF DESIGN
SUBMITTED
RECOMMENDED
APPROVED
KNOXVILLE
8-8-51
10N400 R4

KINGSTON STEAM PLANT
1971

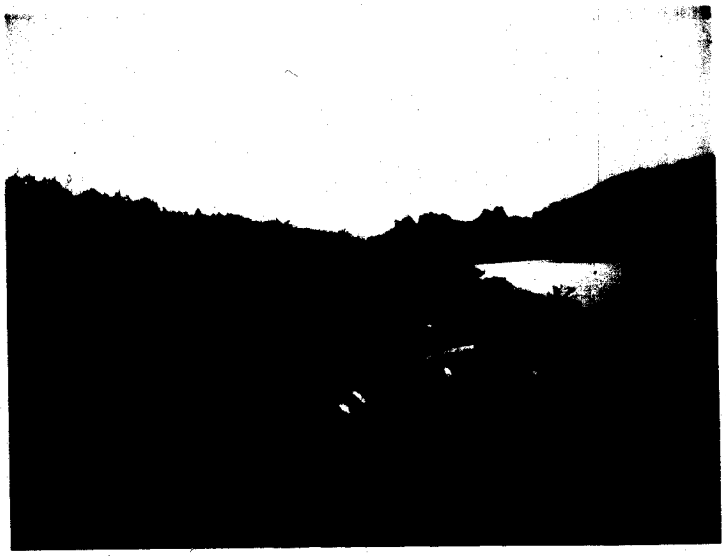


(1.)
Spillway in initial ash disposal area and North Dike. Note earth on top and slope.



(2.)
North Dike: Note earth placed on top of dike.

KINGSTON STEAM PLANT
1971



(3.)
Dike C showing riprap and vegetation.

(4.)
Outlet of spillways. Note concrete endwall and railing, vegetation on slope and the areas where fishermen have worn the grass out.