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TENNESSEE STATE DEPT OF CONSERVATION NASHVILLE DIV 0--ETC F/G 13/13
NATIONAL PROGRAM OF INSPECTION OF NON-FEDERAL DAMS, TENNESSEE. --ETC(11)
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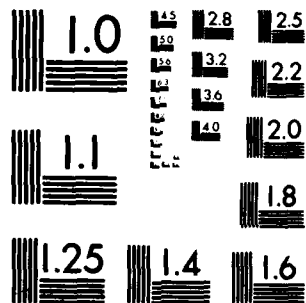
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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO. AD-A108251	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) National Program of Inspection of Non-Federal Dams Tennessee. McNairy Cypress Creek Watershed Dam No. 17 (Inventory Number TN 10908) near Selmer, Tennessee, McNairy County, TN., Tuscumbia River Basin		5. TYPE OF REPORT & PERIOD COVERED Phase 1 Investigation Report
7. AUTHOR(s)		6. PERFORMING ORG. REPORT NUMBER
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11. CONTROLLING OFFICE NAME AND ADDRESS U.S. Army Engineer District, Nashville P.O. Box 1070 Nashville, TN. 37202		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) McNairy Cypress Creek Dam #17 is located in McNairy County, Tennessee about 0.5 miles east of Selmer. The dam is an earthfill embankment 34.1 feet high and 960 feet long with a crest width of 15 feet. The dam impounds a 13 acre lake. The service spillway is a cast in place, 2 stage concrete riser leading to a 30 inch reinforced concrete pipe with an SCS standard impact basin. The drawdown drain is a 18" gated orifice at the base of the riser. The emergency spillway is an 82 foot wide trapezoidal earth saddle on the left abutment. The embankment slopes are 1V:2.9H on the upstream slope with a berm 26 feet		

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below the crest. The downstream slope has a berm 20 feet below the crest. The downstream slope above the berm is 1V:2.9H and 1V:2.6H below the berm. Both slopes have a dense grass cover. The dam is in the small size category and has a downstream hazard potential classification of "high" under OCE guidelines and category "I" by the State of Tennessee. On the basis of hydraulic analysis, the dam has adequate storage/spillway capacity to pass the 1/2 probable maximum flood (PMF) under antecedent moisture condition III (AMC III). The 1/2 PMF is the minimum storm required under OCE guidelines for a dam in the small size and high hazard potential classifications. The dam is considered "not-deficient" and is recommended that any erosion be repaired and a soil binding grass cover established on the embankment.

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DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1070
NASHVILLE, TENNESSEE 37202

21 SEP 1981

IN REPLY REFER TO

ORNED-G

Honorable Lamar Alexander
Governor of Tennessee
Nashville, TN 37219

Dear Governor Alexander:

Furnished herewith is the Phase I Investigation Report on McNairy Cypress Creek Watershed Dam No. 17 near Selmer, Tennessee. The report was prepared under the authority and provisions of PL 92-367, the National Dam Inspection Act, dated 8 August 1972.

The report presents details of the field inspection, background information, technical analyses, findings, and recommendations for improving the condition of the dam.

Based upon the inspection and subsequent evaluation, this dam is classified as not deficient at this time. The dam is judged stable, with no apparent seepage and a good grass cover on the embankment. Only minor surface erosion exists at the downstream slope.

As required for a dam such as this in the small size and high hazard category, this dam is capable of safely passing the one-half probable maximum flood.

The present maintenance program should be continued and the erosion problem and any future erosion should be corrected.

Public release of the report and initiation of public statements fall within your prerogative. However, under provisions of the Freedom of Information Act, the Corps of Engineers is required to respond fully to inquiries on information contained in the report and to make it accessible for review on request.

Your assistance in keeping me informed of any further developments will be appreciated.

Sincerely,

Lee W. Tucker
LEE W. TUCKER
Colonel, Corps of Engineers
Commander

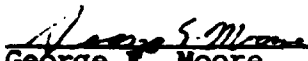
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As stated

CF:
Mr. Robert A. Hunt, Director
Division of Water Resources
4721 Trousdale Drive
Nashville, TN 37220

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM

Name of Dam McNairy Cypress Creek
Watershed Dam #17
County McNairy
Stream Wolf Branch
Date of Inspection March 9, 1981

Prepared By:


George E. Moore
Regional Engineer

Approved By:


Edmond B. O'Neill
Chief Engineer
Safe Dams Section

Approved By:

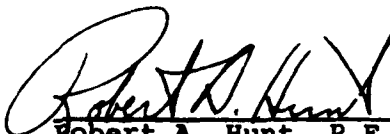

Robert A. Hunt, P.E.
Director, Division of
Water Resources,
Tennessee Department
of Conservation

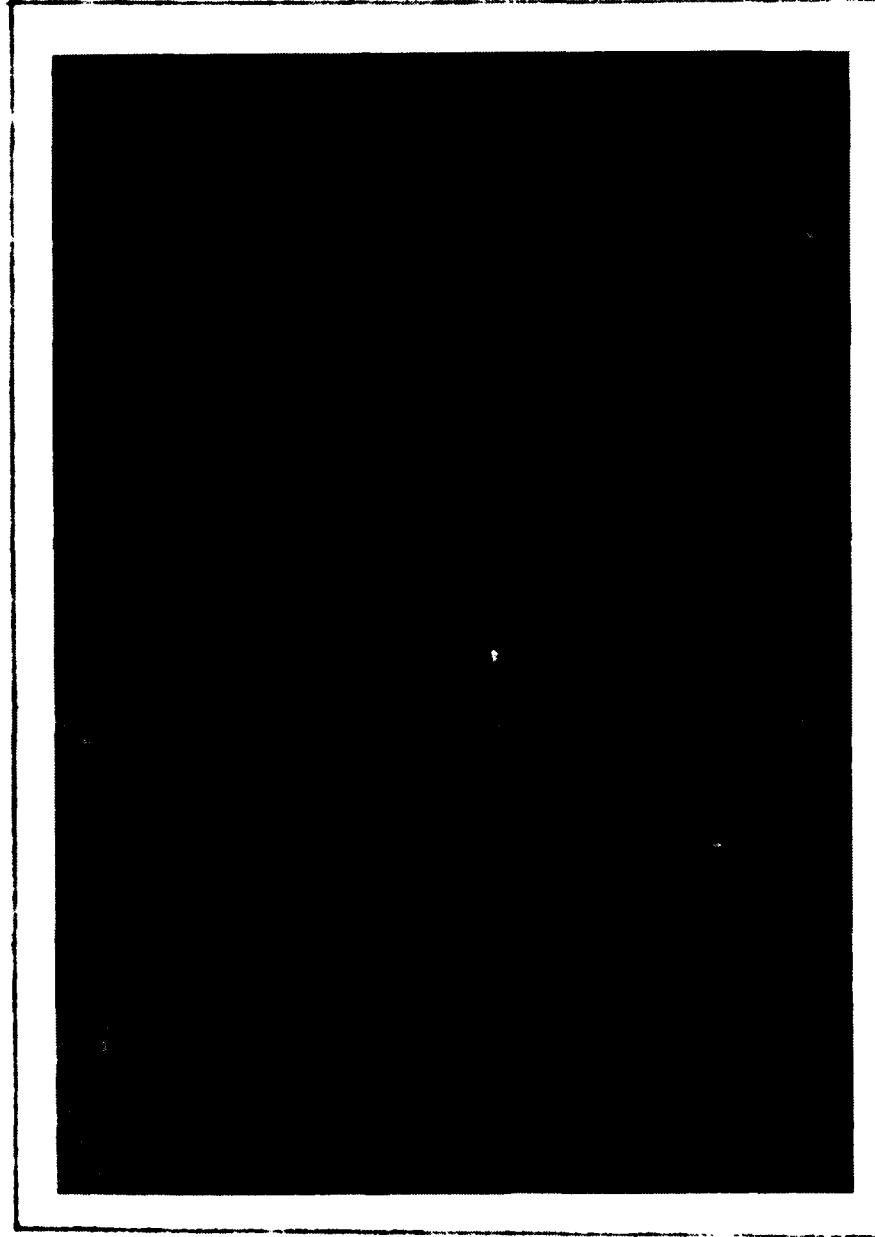
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OVERVIEW PHOTOGRAPH

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM

Name of Dam McNairy Cypress Creek
Watershed Dam #17

County McNairy

Stream Wolf Branch

Date of Inspection March 9, 1981

ABSTRACT

McNairy Cypress Creek Dam #17 is located in McNairy County, Tennessee, about 0.5 miles east of Selmer. The dam is an earthfill embankment 34.1 feet high and 960 feet long with a crest width of 15 feet. The dam impounds a 13 acre lake. The service spillway is a cast in place, 2 stage concrete riser leading to a 30 inch reinforced concrete pipe with an SCS standard impact basin. The drawdown drain is a 18" gated orifice at the base of the riser. The emergency spillway is an 82 foot wide trapezoidal earth saddle on the left abutment.

The embankment slopes are 1V:2.9H on the upstream slope with a berm 26 feet below the crest. The downstream slope has a berm 20 feet below the crest. The downstream slope above the berm is 1V:2.9H and 1V:2.6H below the berm. Both slopes have a dense grass cover.

McNairy Cypress Creek Dam #17 is in the small size category and has a downstream hazard potential classification of "high" under OCE guidelines and category "1" by the State of Tennessee.

↓ On the basis of hydraulic analysis, the dam has adequate storage/spillway capacity to pass the $\frac{1}{2}$ probable maximum flood (PMF) under antecedent moisture condition III (AMC III). The $\frac{1}{2}$ PMF is the minimum storm required under OCE guidelines for a dam in the small size and high hazard potential classifications.

↙ At this time, the dam is considered not deficient. It is recommended that any erosion be repaired and a soil binding grass cover established on the embankment.

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM
MCNAIRY CYPRESS CREEK WATERSHED DAM #17
MCNAIRY COUNTY, TENNESSEE

SECTION 1 - GENERAL

- 1.1 Authority - The Phase I inspection of this dam was carried out under the authority of Tennessee Code Annotated, Sections 70-2501 to 70-2530, The Safe Dams Act of 1973, and in cooperation with the U. S. Army Corps of Engineers under the authority of Public Law 92-367, The National Dam Inspection Act.
- 1.2 Purpose and Scope - The purpose of a Phase I investigation is to develop an engineering assessment of the general condition of a dam with respect to safety and stability. This is accomplished by conducting a visual inspection; reviewing any available design and construction data; and performing appropriate hydraulic, hydrologic, and other analyses. A comprehensive description of the Phase I investigation program is given in Recommended Guidelines for Safety Inspection of Dams, Department of the Army, Chief of Engineers, Washington, D. C. 20314.
- 1.3 Past Inspections - No prior inspections have been made by this office.
- 1.4 Miscellaneous Details - The day of the inspection was clear with calm winds and an ambient temperature of about 55° F.
- 1.5 Inspection Team Members - The inspection was conducted by the following State personnel:

Ed O'Neill, Chief Engineer
George Moore, Regional Engineer
Anthony Privett, Engineering Co-op

SECTION 2 - PROJECT DESCRIPTION

- 2.1 Location - The project is located in McNairy County, Tennessee, about 0.5 miles east of the city limits of Selmer, Tennessee. The dam is located on the Purdy topographic quadrangle at 88°32'33" east longitude and 35°10'04" north latitude. Location maps are provided in Appendix B of this report. The dam intercepts Wolf Branch of Crooked Creek about 3.5 miles from its confluence with Cypress Creek in the Hatchie River Basin.
- 2.2 Description - (The following data was obtained from a review of SCS furnished design plans. See Section 3.2 for further description.)
- 2.2.1 Embankment - The dam is a linearly aligned zoned earth embankment structure 34.1 feet high. The crest is 15 feet wide and 987 feet long. The downstream slope is 1V:3H. The upstream slope is 1V:3H with 10 foot berms at elevations 478.5' msl and 475.8' msl. Riprap has been placed on the upstream slope for wave protection. The upstream zone of the embankment is composed of CL and ML material (Unified Soils Classification System). The downstream zone is SC and SM material. The fill for the keyway and the core of the dam is CH and MH material.

A trench drain has been provided under the downstream toe to collect seepage through the embankment and foundation. The trench is filled with sand graded to gravel and is drained by a 6 inch perforated asbestos cement pipe.

The valley bottom at the dam site is in the Mississippi River floodplain alluvial deposits of the Quaternary Period. The abutments and the area upstream of the dam enter into the sandy clays in the Coon Creek formation of the Cretaceous Period. The alluvial deposits are poorly sorted, unstratified sands, silts, clays, and fine quartz pebbles. The Coon Creek formation is fine grained sandy clay with thin beds and cross beds of glauconitic sand. Lower parts have terminal Montmorillinitic layers laminated with thin sand partings and thin discontinuous bedding of sideritic concretions. Upper layers are white sands and clays with a leached appearance.

2.2.2 Service Spillway - The service spillway has a 2 stage concrete riser. The winter low stage inlet is an 18 inch by 12 inch rectangular orifice at elevation 474.8' msl and the summer low stage inlet is an 18 inch by 15 inch rectangular orifice at elevation 477.5' msl. Both low stage openings are controlled by 18 inch square slide gates. The high stage inlet is two 7'6" by 3'2" openings at elevation 483.5' msl. The riser leads to a 30 inch diameter reinforced concrete pipe. The pipe meets the requirements of AWWA Specification C-301. A concrete impact structure has been provided at the outlet. The maximum capacity of the service spillway is estimated to be 115 cfs.

2.2.3 Drawdown Drain - The drawdown drain is an 18 inch diameter orifice controlled by an 18 inch square slide gate on the upstream side of the service spillway riser. The inlet elevation is 465.5' msl.

2.2.4 Emergency Spillway - The emergency spillway is an uncontrolled vegetated earth saddle on the left abutment. The spillway has a trapezoidal cross section with a 93 foot base and side slopes of 3H:1V. The crest of the spillway is at elevation 487.1' msl giving a maximum head of 6.9 feet. The control section is 50 feet long. The entrance channel has a slope of 0.5% and the exit slope is 2.5%. The maximum capacity of the emergency spillway is about 4500 cfs.

2.2.5 Reservoir and Drainage Area - At the normal pool elevation of 477.5' msl, the reservoir has a surface area of 13 acres and a fetch of 1100 feet. At the top of the dam the pool would be 33 acres and the capacity would be 507 acre-feet (461 acre-feet above normal pool).

The drainage area is 621 acres. The maximum relief is about 130 feet and the longest watercourse is 6800 feet. The predominant soil types are Shubuta, Cutbert, and Dulac. The major land use is woods.

2.2.6 Downstream Hazard Potential - This dam has a downstream hazard potential classification of high (1). Wolf Branch enters Crooked Creek about 1500' downstream of the dam. Ten houses are located along

Crooked Creek. Crooked Creek crosses U. S. Hwy 45 about 2.5 miles downstream of the dam and an ICG Railroad 3.4 miles downstream of the dam. The dam was designed under SCS Class C criteria.

2.2.7 Miscellaneous - The dam is located on the property of Leonard M. Atkins and wife under an easement to the McNairy Cypress Creek Watershed District and the McNairy County Commission. The dam was built as a floodwater detention and sediment storage facility under PL-566. The work was performed under the auspices of the USDA Soil Conservation Service with Prather-Thomas-Campbell and Pridgeon, Inc. as engineer and Chancellor and Son Construction Company as contractor. Work was completed in 1979.

SECTION 3 - FINDINGS

3.1 Visual Inspection

3.1.1 Embankment - The embankment appeared in generally good condition with no bulges, slumps, cracks, or differential settlement. Minor rilling has occurred along the downstream slope. Gullies about 6 to 8 inches deep have formed along the embankment abutment contacts. The upstream slope has some minor damage from motorcycles and four wheel drives. The riprap is providing adequate wave protection. The grass covering needs improvement on some areas of the downstream slope, but otherwise appears in good condition.

3.1.2 Service Spillway - The service spillway was free of debris and operating properly. No cracking or spalling was seen on the riser or impact structure. The spillway culvert was inaccessible.

3.1.3 Emergency Spillway - Minor erosion has occurred on the slopes of the spillway. A few ruts, caused by motorcycles and other vehicles, were found in the channel.

3.1.4 Drawdown Facility - The drawdown valve was not operated during the inspection. The handwheel had been removed from the lift mechanism.

3.1.5 Downstream Channel - The downstream channel was clear with no major obstructions or significant erosion.

3.1.6 Reservoir and Drainage Area - The drainage area has undergone no appreciable changes since construction of the dam. There was no visually discernible evidence of excessive siltation or accumulation of debris in the reservoir.

3.2 Review of Data - Design and as built plans and hydrologic design calculations have been supplied by the SCS. A field check of the dam indicates that the base width of the emergency spillway is about 10 feet less and the spillway crest elevation is 0.4' higher than on the design plans. The top of the dam elevation is 1.3 feet higher than required on the plans. The dam otherwise appears

to be in substantial compliance with the plans. Plans are provided in Appendix F and hydrologic data are in Appendix E.

- 3.3 Static and Seismic Stability - No overt signs of instability were observed. The dam is located in Seismic Zone 1. No analysis of the embankment stability was available. Under this program, dams in Seismic Zone 1 are considered to be adequate under seismic loads if judged to meet static stability requirements.
- 3.4 Hydraulics and Hydrology - Under OCE guidelines, dams in the small size and high hazard potential categories are required to pass the one-half to the full PMF. A review of SCS design calculations shows that the dam will pass the AMC II PMF. Routing of the AMC III PMF indicates that the dam will be overtopped for 0.66 hours with a maximum depth of 0.4 feet. The AMC III $\frac{1}{2}$ PMF will pass with 3.7 feet of freeboard. For an additional explanation of the hydraulic and hydrologic calculations, see Appendix E.

The 6-hour and 10-day 100-year storms were routed through the dam. Both storms passed with no flow in the emergency spillway. The 10-day 100-year storm was used by the SCS design engineers to set the emergency spillway crest at 487.1' msl.

3.5 Conclusions and Recommendations

3.5.1 Conclusions

a. The dam will pass the required storm and is therefore considered to be adequate with respect to hydraulic and hydrologic considerations.

b. No overt signs of instability were observed and, since the dam is in Seismic Zone 1, the dam is considered to be adequate to meet both static and seismic stability requirements.

c. Except for minor rilling and inadequate grass cover on the downstream slope, the dam and its appurtenances appear to be in good condition. The dam is, therefore, considered to be "not deficient".

3.5.2 Recommendations

a. Erosion should be repaired as needed and grass cover adequate to stabilize the soil surface established and maintained.

b. All vehicles should be restricted from the slopes of the embankment and the spillways.

c. A program of routine maintenance and periodic inspection should be established for the dam.

d. An emergency action plan should be developed to notify downstream residents should any potentially hazardous situations arise.

SECTION 4 REVIEW BOARD FINDINGS

The Interagency Review Board for the National Program of Inspection of Non-Federal Dams met in Nashville on 27 August 1981 to examine the technical data contained in the Phase I investigation report on McNairy Cypress Creek Watershed Dam No. 17. The Review Board considered the information and recommended that (1) all vehicles should be prohibited from driving on the embankment, and (2) the design routing attached to the report is to be verified to assure that present conditions are reflected in the computations. They agreed with other report conclusions and recommendations. A copy of the letter report presented by the Review Board is included in Appendix G.

**APPENDIX A
DATA SUMMARY**

APPENDIX A
DATA SUMMARY

A.1 Dam

A.1.1 Type - Zoned earthfill, linear alignment dam with a concrete pipe service spillway and drawdown drain, and a vegetated earth emergency spillway.

A.1.2 Dimensions and Elevations (taken from as built plans; field measurements shown parenthetically)

- a. Crest length - 960' (984')
- b. Crest width - 15' (19')
- c. Height - 34.1' (35.5')
- d. Crest elevation - 495' msl (496.3')
- e. Service spillway elevations:
 - Low stage summer - 477.5' msl
 - Low stage winter - 474.8' msl
 - High stage - 483.5' msl
- f. Emergency spillway elevation - 487.1' msl (487.5')
- g. Embankment slope, U/S - 1V:3H (1V:3.4H)
- h. Embankment slope, D/S - 1V:3H (1V:2.9H)
- i. Size classification - Small

A.1.3 Zones, Cutoffs, Grout Curtains

A.1.3.1 Zones (Fill material given as per Unified Classification System)

- a. Core slopes - 1V:1.5H
- b. Core top elevation - 492' msl
- c. Core materials - MH, CH
- d. U/S zone materials - CL, ML
- e. D/S zone materials - SC, SM

A.1.3.2 Cutoffs

- a. Bottom elevation - 457.5' msl
- b. Base width - 12'
- c. Fill materials - MH, CH

A.1.3.3 Grout Curtains - None

A.1.4 Foundation Drain - Two stage graded sand and gravel filter drained by a 6-inch perforated asbestos concrete pipe.

A.1.5 Instrumentation - None

A.1.6 Operation and Maintenance - Section 70-1801 through 70-1849 of the Tennessee Code Annotated (Watershed District Act of 1955) provides for the establishment of the Watershed Districts and the Watershed District Boards. Easement rights for the construction of the McNairy Cypress Creek Dam were obtained by the Board from the local property owners. The extent of ownership retained by the individuals is being negotiated, with the stipulation (Section 70-1847) that the Board has full operation and maintenance authority.

According to the SCS District Conservationist, the Watershed District is to make periodic inspections of the dams as needed and at least annually to determine any remedial measures needed.

A record of the inspections and maintenance operations is to be kept on file and will be available for use by representatives of the SCS. Specific maintenance agreements are to be executed prior to the construction of structural works of improvement.

A.2 Reservoir and Drainage Area

A.2.1 Reservoir (Normal pool elevation 477.5' msl)

- a. Surface area - 13 acres
- b. Fetch - 1100 feet
- c. Capacity (normal pool) - 66 acre-feet
- d. Capacity (top of dam) - 507 acre-feet

A.2.2 Drainage Area

- a. Size - 621 acres
- b. Maximum relief - 130 feet
- c. Soils - Shubuta, Cuthbert, Dulac
- d. Cover - woods
- e. Runoff (P₁₀₀ AMC III) - 197 acre-feet
- f. Runoff (PMP AMC II) - 1312 acre-feet

A.3 Outlet Structures

A.3.1 Drawdown Drain (Slide gate at base of service spillway riser)

- a. Inlet diameter - 18 inches
- b. Inlet elevation - 465.5' msl

A.3.2 Service Spillway (Cast in place concrete riser leading to reinforced concrete pipe with concrete anti-seep collars)

- a. Pipe diameter - 30 inch
- b. Pipe gradient - Approx. 2%
- c. Anti-seep collars size - 9" x 11' x 7'9"
- d. Anti-seep collars number and spacing - 6 @ 17'
- e. High stage inlet - 2 @ 7'6" x 3'2"
- f. Summer low stage - 1 @ 18" x 15"
- g. Winter low stage - 1 @ 18" x 12"
- h. Maximum capacity - 115 cfs

A.3.3 Emergency Spillway (Trapezoidal, vegetated earth saddle on the left abutment)

- a. Base width - 93 feet (82')
- b. Side slopes - 1V:3H (1V:3.4H rt.; 1V:4.2H lt.)
- c. Control section length - 50 feet
- d. Entrance slope - 0.5% (0.4%)
- e. Exit slope - 2.5% (2.2%)
- f. Maximum capacity - 4500 cfs

A.4 Historical Data

A.4.1 Construction Date - 1979

A.4.2 Designer - Prather-Thomas-Campbell and Pridgeon, Inc.

A.4.3 Builder - Chancellor and Son Construction

A.4.4 Owner - McNairy County Commission

**A.4.5 Funding and Engineering Approvals - USDA
Soil Conservation Service under PL-566**

A.4.6 Seismic Zone - 1

A.5 Downstream Hazard Data

A.5.1 Downstream Hazard Potential Classification

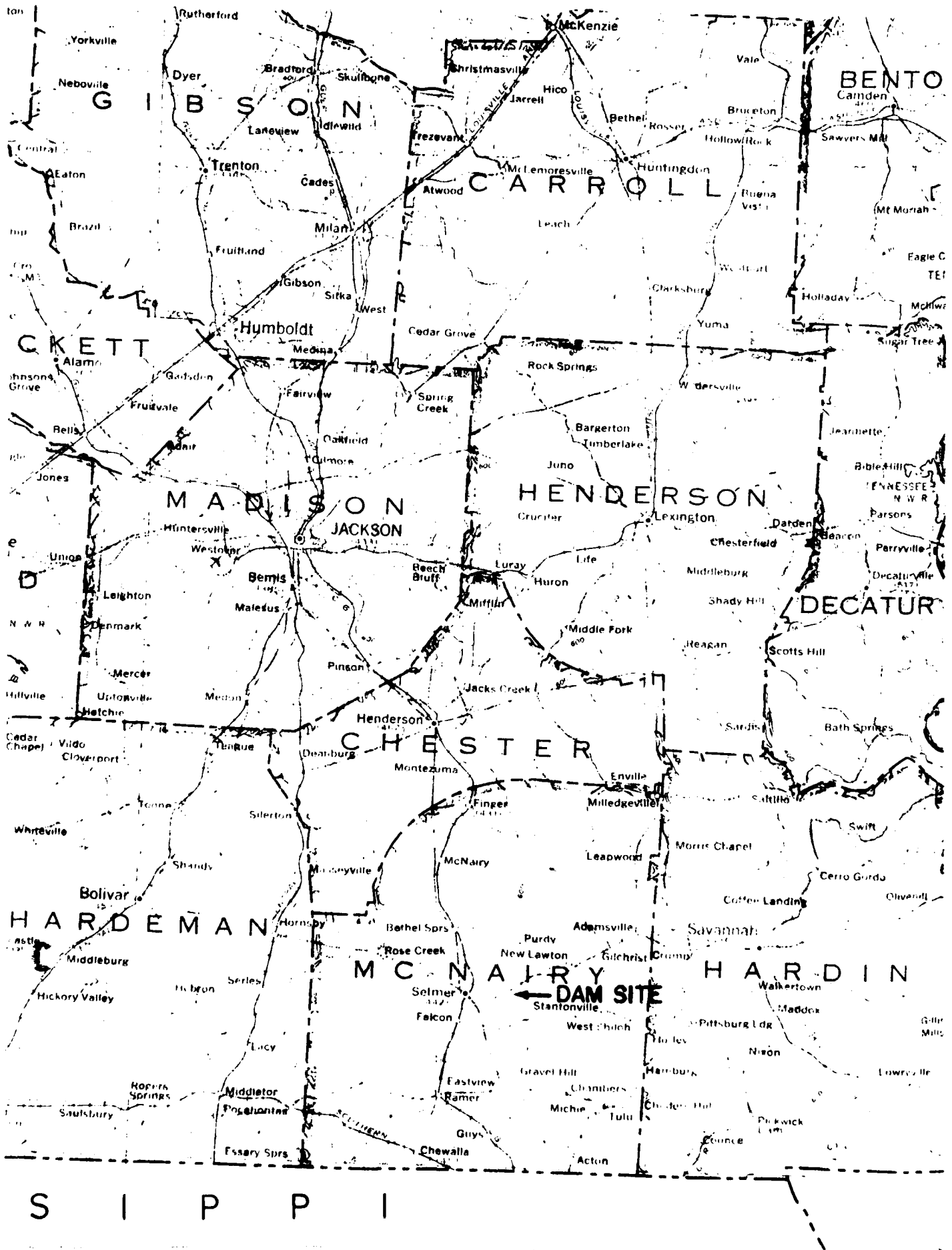
- a) Corps of Engineers - High
- b) State of Tennessee - 1

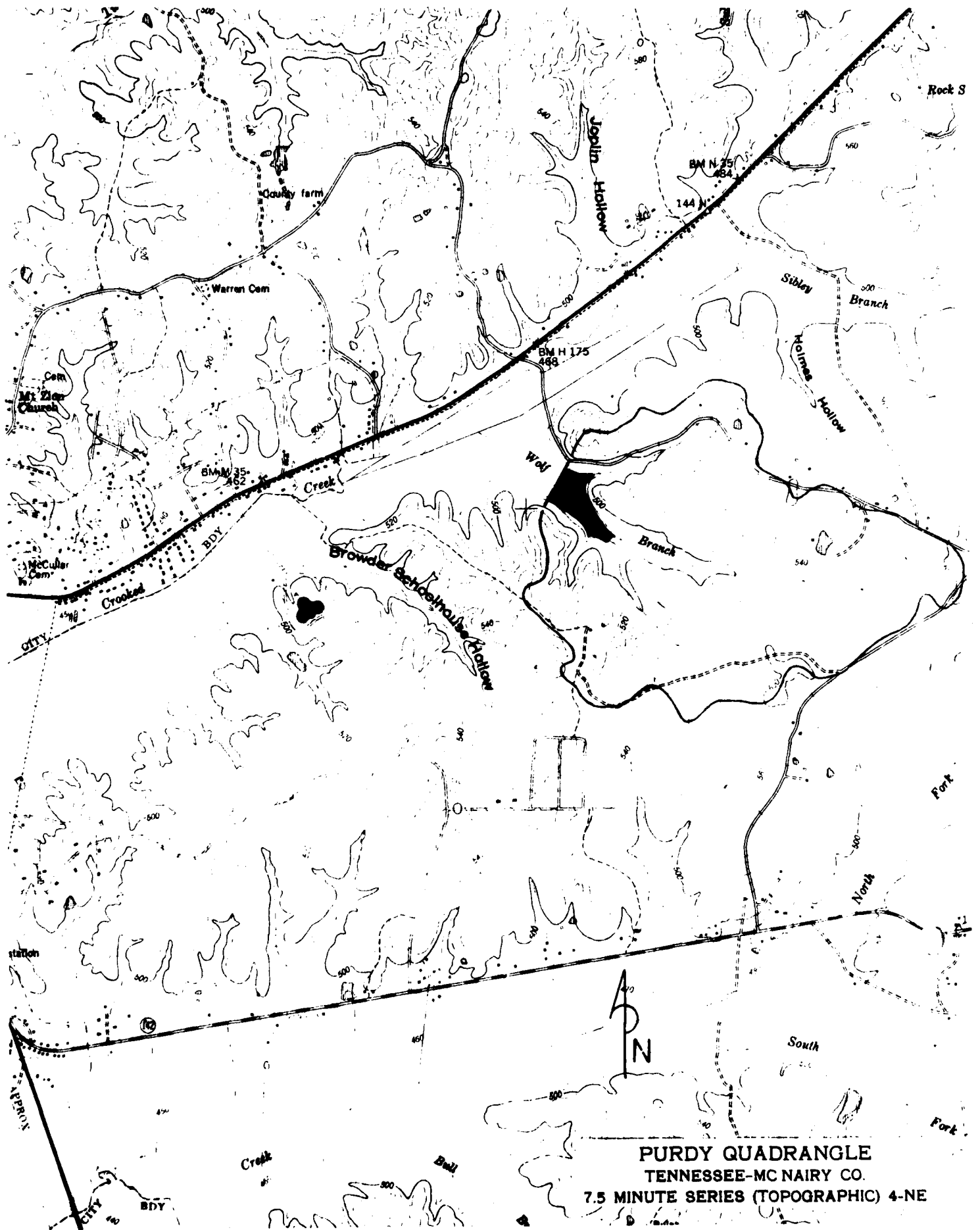
A.5.2 Persons in Probable Flood Path - 30+

A.5.3 Downstream Property - 10+ houses.

A.5.4 Warning Systems - None

APPENDIX B
SKETCHES AND LOCATION MAPS

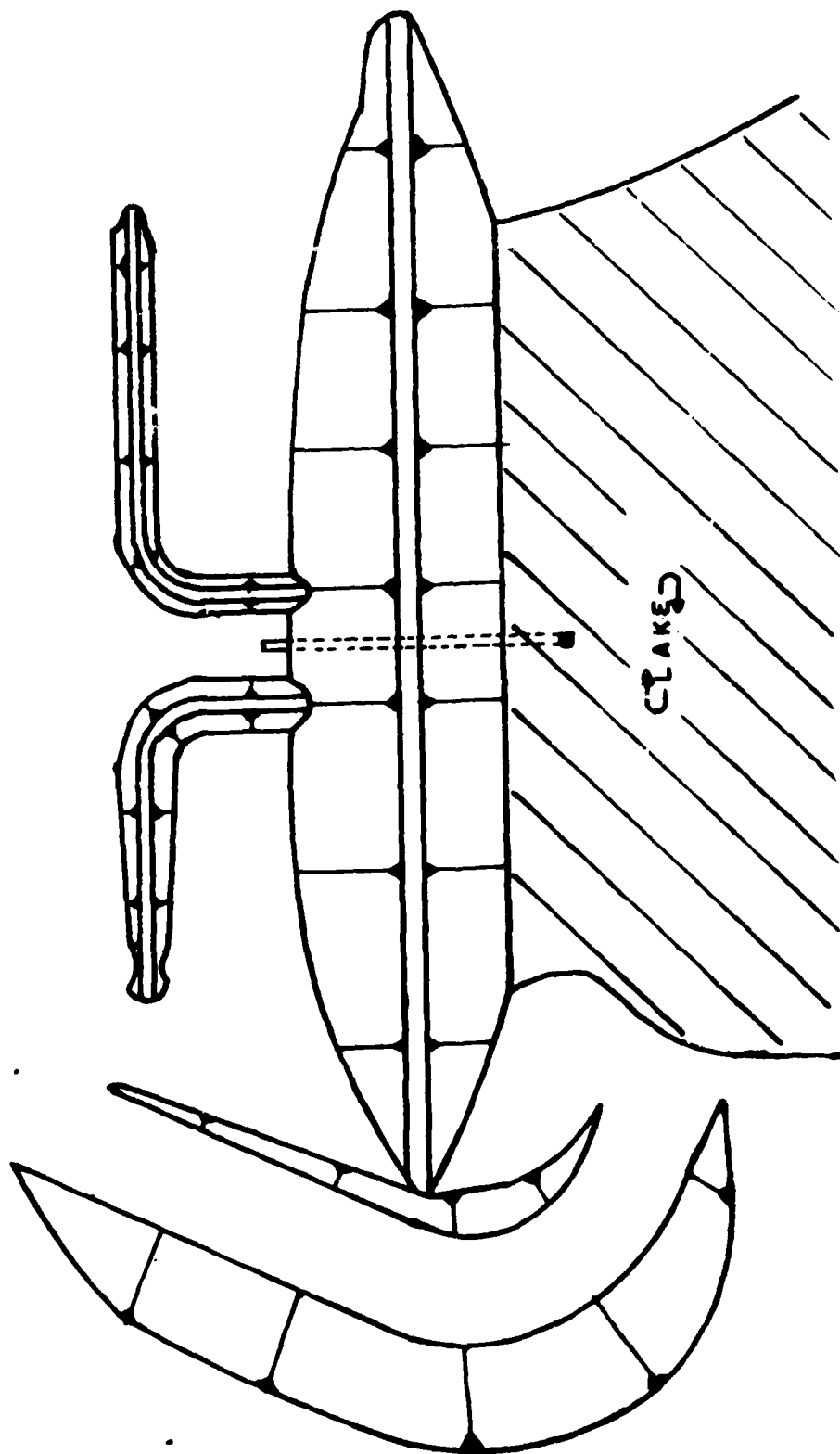




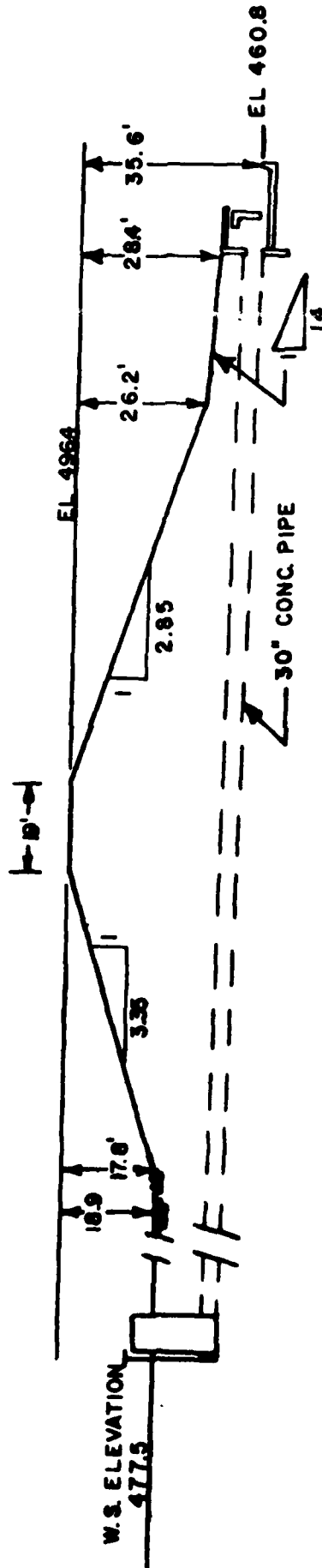
PURDY QUADRANGLE
TENNESSEE-MC NAIRY CO.

7.5 MINUTE SERIES (TOPOGRAPHIC) 4-NE

MENAIRY CYPRESS
CREEK
DAM NO. 17

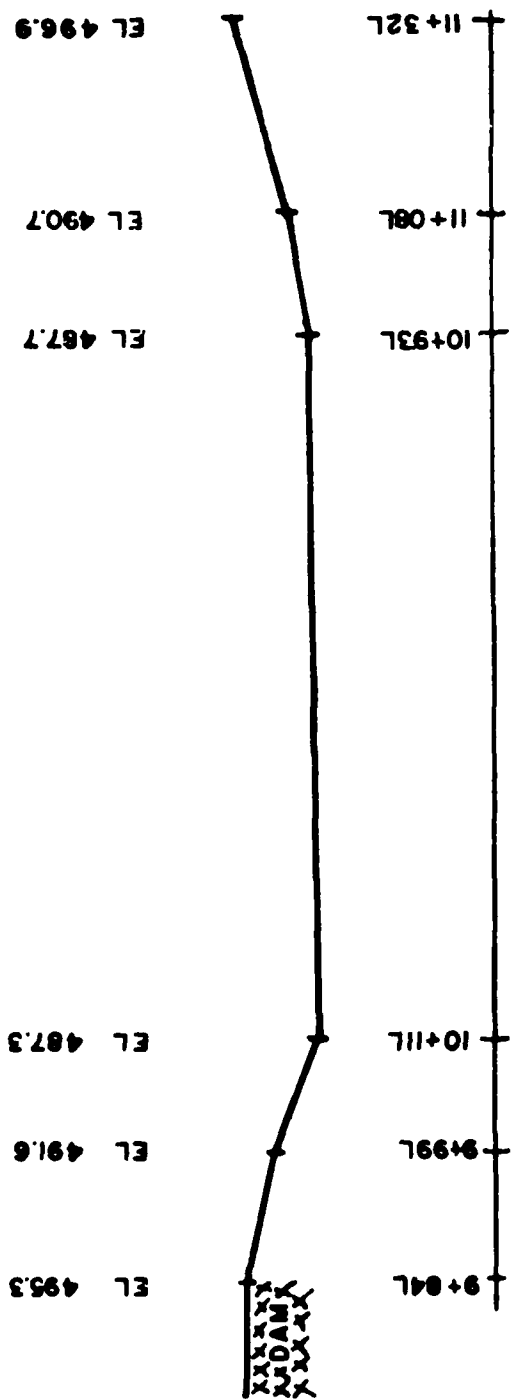


PLAN VIEW



MAXIMUM SECTION
SCALE 1" = 30'

McNAIRY CYPRESS CREEK DAM NO. 17	DRAWN BY: ADP DATE: 7/7/81 SHEET: 1 OF 4
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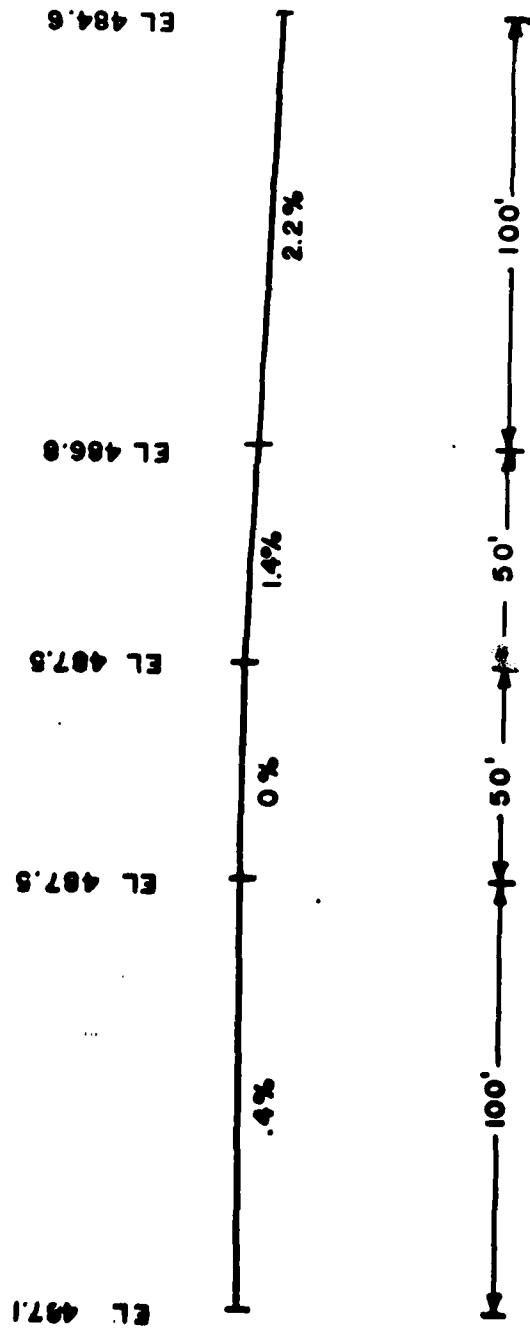


EMERGENCY SPILLWAY CONTROL SECTION

SCALE 1"=20'

McNAIRY CYPRESS CREEK DAM NO. 17	
DRAWN BY: ADP	DATE: 7/9/81
SHEET: 2 OF 4	

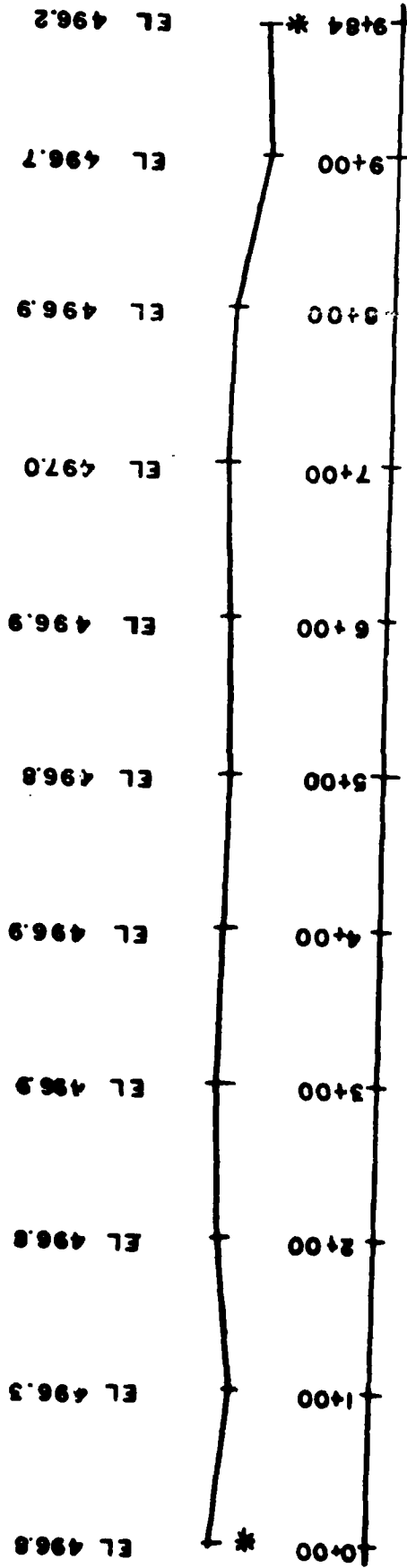
NOTE: CONTROL SECTION
30' D/S OF CREST E



EMERGENCY SPILLWAY PROFILE

H. SCALE 1" = 40'
V. SCALE 1" = 20'

McNAIRY CYPRESS CREEK DAM NO. 17	DRAWN BY ADP DATE 7/8/81 SHEET 3 OF 4
--	---



CREST & PROFILE
 H. SCALE 1"=100'
 V. SCALE 1"=10'

McNAIRY CYPRESS CREEK	
DAM NO. 17	
DRAWN BY ADP	DATE 7/8/81
SHEET 4 OF 4	

* END OF DAM

APPENDIX C
PHOTOGRAPHIC RECORD

PHOTOGRAPHIC RECORD

Photo No. 1 - Information plaque.

Photo No. 2 - The crest of the dam from the right abutment.

Photo No. 3 - The upstream slope from the right abutment.

Photo No. 4 - The upstream slope showing what appears to be a recent high water mark.

Photo No. 5 - The downstream slope from the right abutment.

Photo Nos. 6 & 7 - Surface erosion on the downstream slope.

Photo No. 8 - A gully forming along the left downstream embankment abutment contact.

Photo No. 9 - The emergency spillway looking upstream.

Photo No. 10 - The emergency spillway looking downstream.

Photo No. 11 - The service spillway riser.

Photo No. 12 - The service spillway outlet structure.

Photo No. 13 - Erosion occurring along the right side of the outlet structure.

Photo No. 14 - Material collected above the outlet structure apparently washed from the embankment.

Photo No. 15 - A levee below the toe of the dam apparently to collect runoff from abutments.

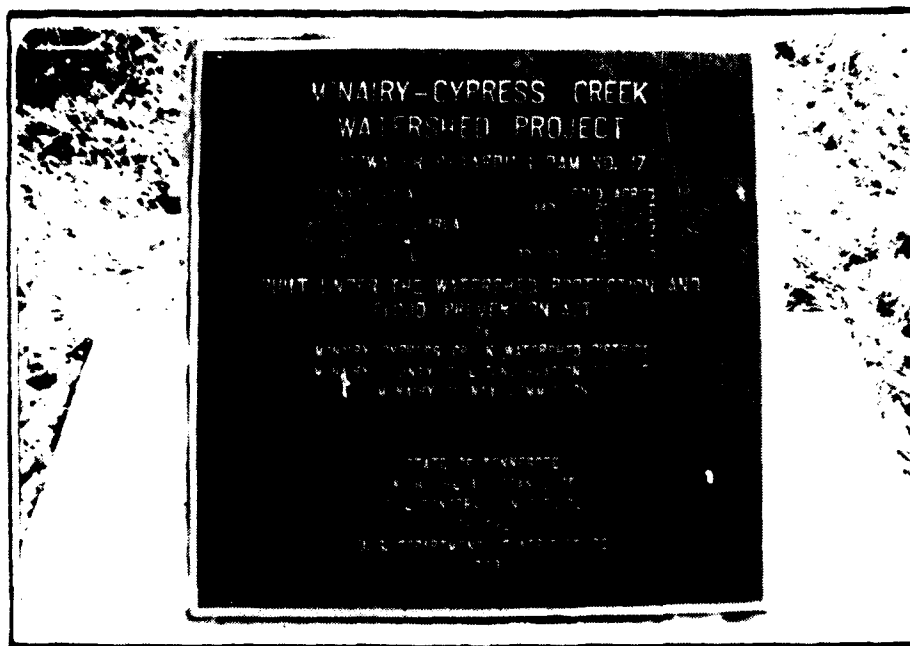


PHOTO NO. 1

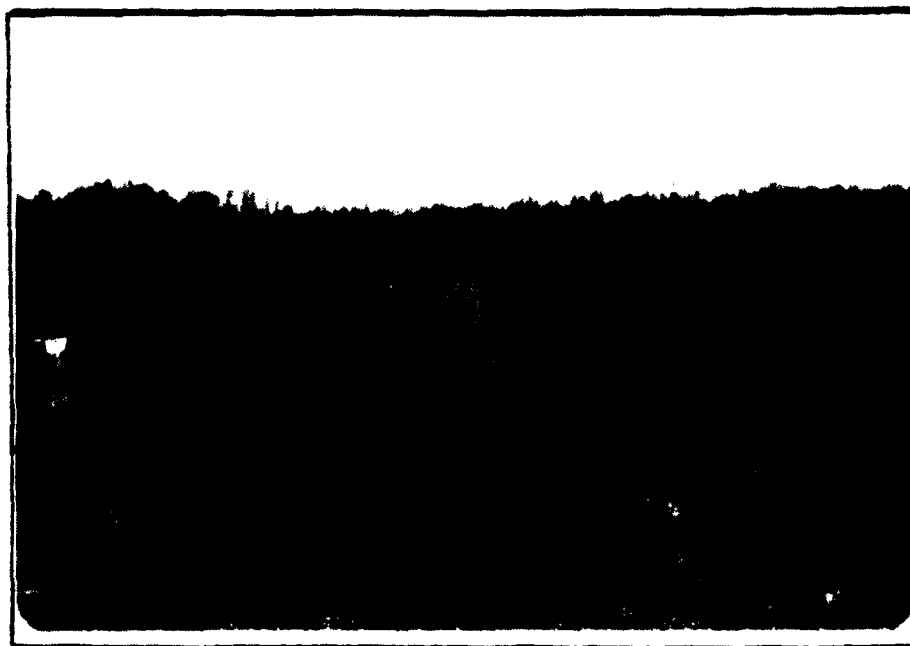


PHOTO NO. 2



PHOTO NO. 3



PHOTO NO. 4



PHOTO NO. 5



PHOTO NO. 6



PHOTO NO. 7

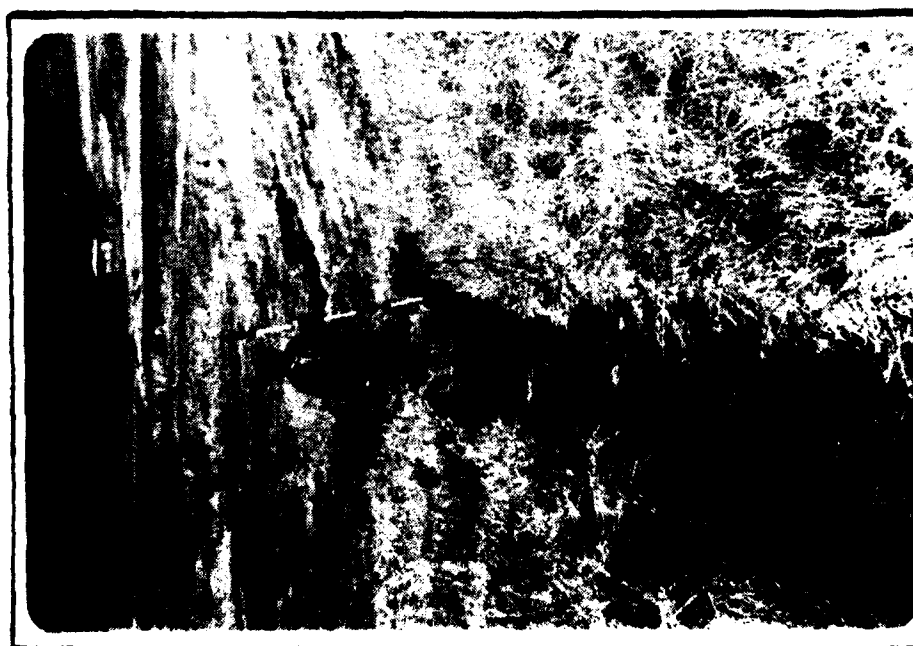


PHOTO NO. 8



PHOTO NO. 9



PHOTO NO. 10



PHOTO NO. 11

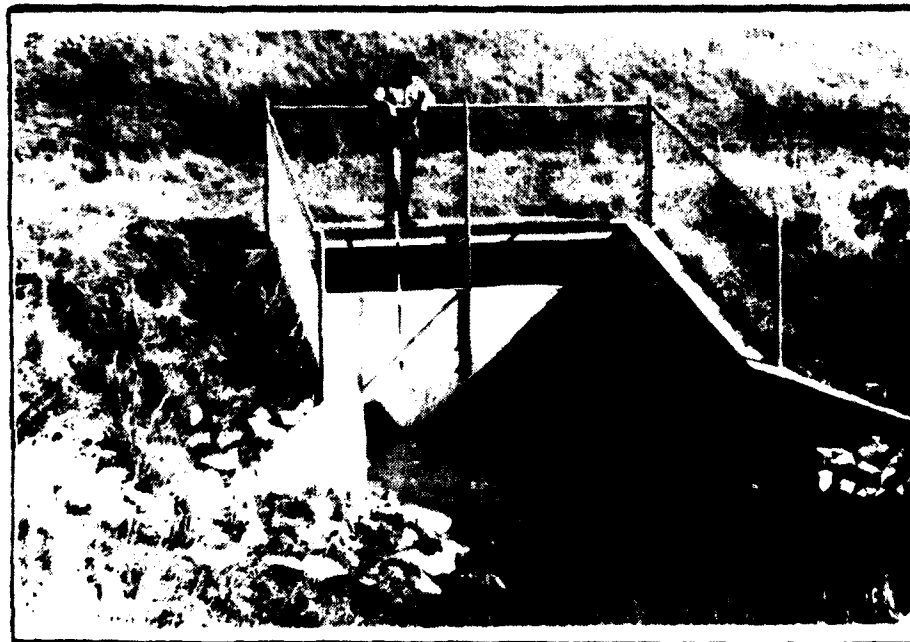


PHOTO NO. 12



PHOTO NO. 13

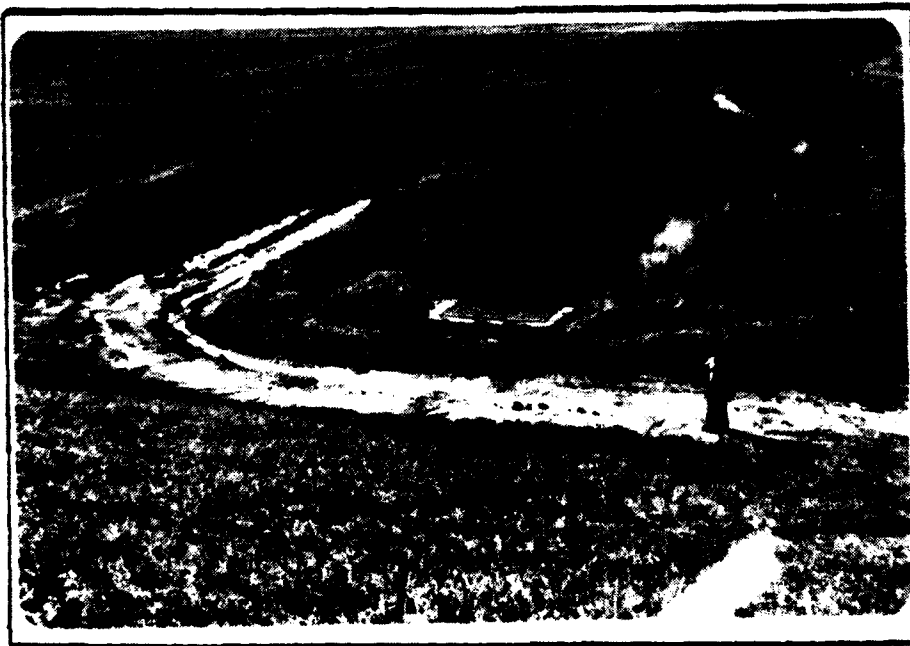


PHOTO NO. 14



PHOTO NO. 15

APPENDIX D
CHECKLIST

Check List
Visual Inspection of Earth Dams
Department of Conservation
Division of Water Resources

Name of Dam McNairy Cypress Creek Dam #17

County McNairy Date of Inspection 3/9/81

ID # - State 55-7010 Federal TN 10908

Type of Dam Earth

Hazard Category-Federal High State 1

Weather Clear Temperature About 55°F

Pool at Time of Inspection High stage NPL (distance from crest)

Tailwater at Time of Inspection 6" (distance from stream bed)

Design/As Built Drawings Available: Yes X No

Location: SCS office, Nashville and Selmer

Copy Obtained: Yes X No

Reviewed: Yes X No ~~Primary~~

Construction History Available: Yes X No

Location: SCS office, Nashville and Selmer

Copy Obtained: Yes No X

Reviewed: Yes X No Cursory

Other Records and Reports Available: Yes No

Location:

Copy Obtained: Yes No

Reviewed: Yes No

Prior Incidents or Failures: Yes No X

Inspection Personnel and Affiliation:

George Moore - TDWR

Anthony Privett - TDWR

Ed O'Neill - TDWR

I. Embankment

A. Crest

Description (1st inspection) Straight with gravel
roadway.

1. Longitudinal Alignment Good

2. Longitudinal Surface Cracks None seen

3. Transverse Surface Cracks None seen

4. General Condition of Surface Good

5. Miscellaneous

B. Upstream Slope

1. Undesirable Growth or Debris Minor debris about
6' above water surface day of inspection.

2. Sloughing, Subsidence, or Depressions None seen,
minor rilling above riprap at least partially due to
motorcycles and 4 wheel drives.
3. Slope Protection Riprap - good
- a. Condition of Riprap Good
- b. Durability of Individual Stones Good
- c. Adequacy of Slope Protection Against Waves
and Runoff Good
- d. Gradation of Slope Protection - Localized Areas
of Fine Material Good
4. Surface Cracks None seen
5. Downstream Slope
1. Undesirable Growth or Debris None seen

2. Sloughing, Subsidence, or Depressions; Abnormal
Bulges or Non-Uniformity Minor erosion increasing
near toe; minor slope irregularities apparent from
construction.
3. Surface Cracks on Face of Slope None seen
4. Surface Cracks or Evidence of Heaving at
Embankment Toe None seen
5. Wet or Saturated Areas or Other Evidence of Seepage
on Face of Slope; Evidence of "Piping" or "Boils"
None seen
6. Drainage System O.K.; no flow
7. Fill Contact with Outlet Structure Some erosion
on right side due to surface runoff.
8. Condition of Grass Slope Protection A few bare
areas mostly near toe.

D. Abutments

1. Erosion of Contact of Embankment with Abutment from
Surface Water Runoff, Upstream or Downstream

Some erosion; all generally less than 1 foot

2. Springs or Indications of Seepage Along Contact of
Embankment with the Abutments None seen

3. Springs or Indications of Seepage in Areas a Short
Distance Downstream of Embankment - Abutment Tie-in

None seen

II. Area Downstream of Embankment, Including Channel

A. Localized Subsidence, Depressions, Sinkholes, Etc. _____

None seen _____

B. Evidence of "Piping", "Boils", or "Seepage" _____

None seen _____

C. Unusual Presence of Lush Growth, such as Swamp

Grass, etc. None seen _____

D. Unusual Muddy Water in Downstream Channel None seen _____

E. Sloughing or Erosion Minor erosion from surface runoff. _____

F. Surface Cracks or Evidence of Heaving Beyond

Embankment Toe None seen _____

G. Stability of Channel Sideslopes O.K. _____

H. Condition of Channel Slope Protection Vegetation only. _____

I. Adequacy of Slope Protection Against Waves, Currents,
and Surface Runoff O.K.

J. Miscellaneous

K. Condition of Relief Wells, Drains, and Other
Appurtenances See below

L. Unusual Increase or Decrease in Discharge from
Relief Wells

III. Instrumentation

A. Monumentation/Surveys Information plaque at
embankment abutment contact upstream right.

B. Observation Wells None

C. Weirs None

D. Piezometers None

E. Other None

IV. Spillways

A. Service Spillway (Service/Emergency Combination Yes ☐ No ☒)

1. Intake Structure Condition O.K.

2. Outlet Structure Condition O.K.

3. Pipe Condition Could not be seen

4. Evidence of Leakage or Piping None seen

5. General Remarks _____

B. Emergency Spillway

1. General Condition Good

2. Entrance Channel Good

3. Control Section Good

3. Exit Channel Good

4. Vegetative/Woody Cover Grass cover

5. Other Observations Minor erosion on slopes and
some ponding of water downstream of
evidence of motorcycle and four wheel drives.

V. Emergency Drawdown Facilities (if part of service spillway
so state) Gate valve on service spillway riser

Are Facilities Operable: Yes X No

Were Facilities Operated During Inspection: Yes No X

Date Facilities Were Last Used Unknown

VI. Reservoir

A. Slopes O.K.

B. Sedimentation Appears minor

C. Turbidity less than 6" visibility; brown

VII. Drainage Area

Description (for hydrologic analysis) Predominantly
woods

A. Changes in Land Use _____

VIII. Downstream Area (Stream)

A. Condition (obstructions, debris, etc.) _____

None

B. Slopes Flat _____

C. Approximate No. Homes, Population, and Distance _____

Numerous houses starting about 1/2 mile downstream

D. Other Hazards Hwy 64 about 1 1/2 mile downstream _____

IX. Miscellaneous

Incidents/Failures None

Observed Geology of Area _____

X. Conclusions

Satisfactory pending hydraulic and hydrologic analysis

VI. Recommendations

1) Repair erosion

2) Improve grass cover

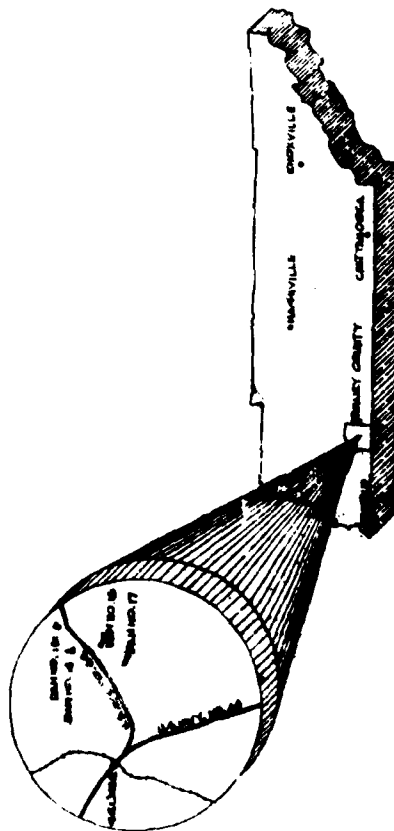
3) Prevent use of motorcycles and four wheel drives
on slopes

Richard S. Moore
Regional Engineer

Chief Engineer

APPENDIX F
DESIGN DRAWINGS

AND
U. S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE



LOCATION MAP

INDEX OF DRAWINGS

- 1 - LOCATION MAP
- 2 - RESERVOIR AREA
- 3 - SHORELINE SHAPING AND GRADINGS
- 4 - SITE LOCATION MAP
- 5 - BORROW AREA NO. 1
- 6 - BORROW AREA NO. 2 & 3
- 7 - TYPICAL SECTIONS
- 8 - DYE AND FILL SECTIONS
- 9 - DETAILS OF WATERWAY NO. 1
- 10 - DETAILS OF WATERWAY NO. 2
- 11 - DETAILS OF PIPE DRAINS
- 12 - PRINCIPAL SPILLWAY
- 13 - FOUNDATION DRAIN
- 14 - PIPE DRAINS
- 15 - RISER DETAILS
- 16 - DETAILS OF RISER APRON AND LADDER
- 17 - RISER DETAILS
- 18 - RISER DETAILS
- 19 - RISER DETAILS
- 20 - RISER DETAILS
- 21 - TRASH RACK & HEADGATE DETAILS
- 22 - DETAILS OF IMPACT BASIN
- 23 - DETAILS OF IMPACT BASIN
- 24 - DETAILS OF IMPACT BASIN
- 25 - DETAILS OF IMPACT BASIN
- 26 - SCHEDULE - IMPACT BASIN
- 27 - IMPACT DETAILS - IMPACT BASIN
- 28 - IMPACT BASIN COVER & FENCE DETAILS
- 29 - PILES
- 30 - BORROW AREA NO. 1
- 31 - BORROW AREA NO. 2
- 32 - BORROW AREA NO. 2
- 33 - BORROW AREA NO. 2
- 34 - BORROW AREA NO. 3
- 35 - STRUCTURE MONUMENT

PRATHER THOMAS CAMPBELL
PRIDGON, INC

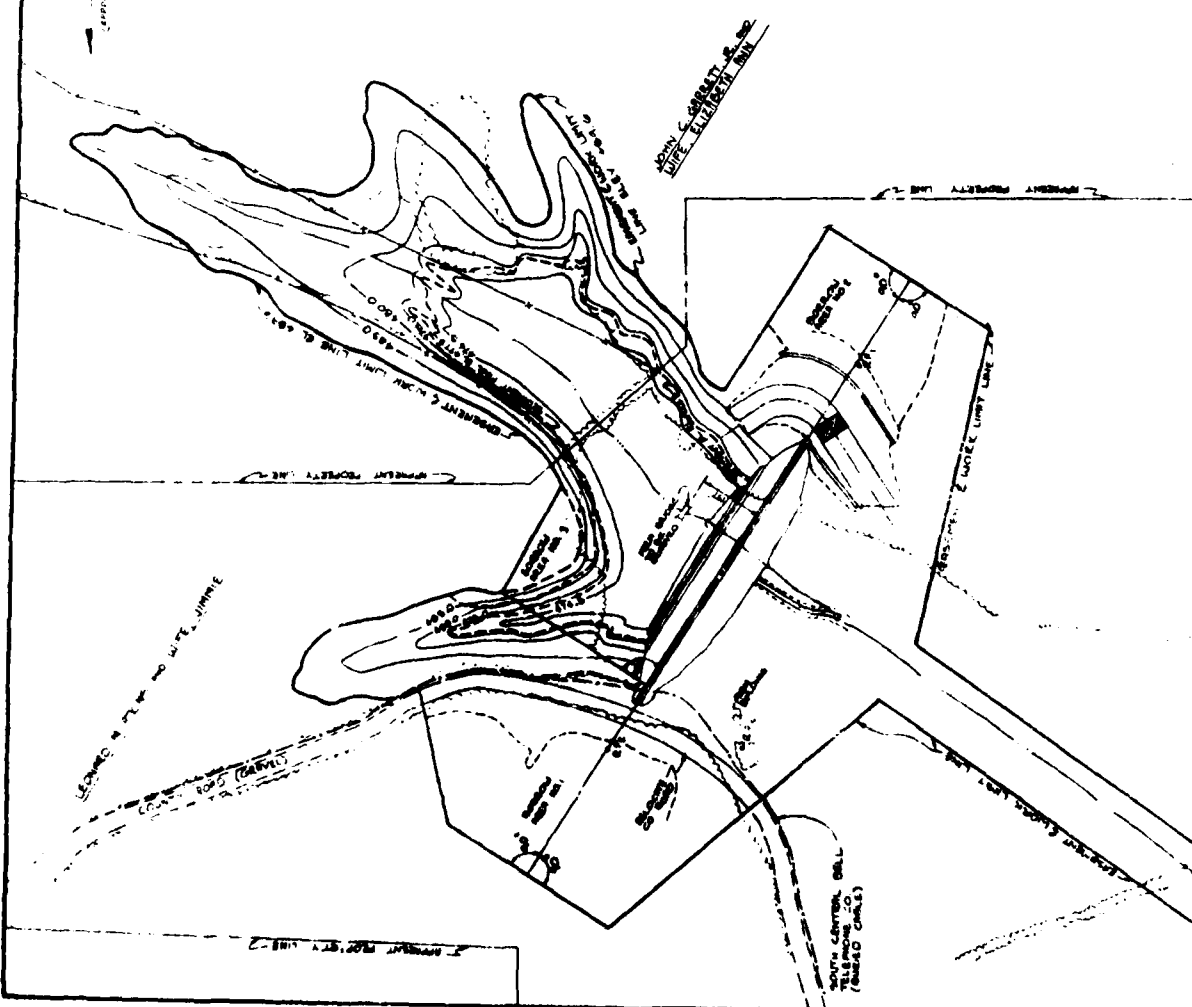
VISIONTEC13 (MC/MI/MS)



CONSTRUCTION **REPAIRS & MAINTENANCE**

W. S. L. 6
U.S. Conservation Engineer, SEA
Washington, Tennessee
S. J. Popen A. Frost
American Engineering Draft
San Francisco, Texas
Date *9-27-78*

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NOTES

ELECTRICAL POINT NO. 1: TUN 8-1-10 DOWNTOWN
2 ONE (CABLED AT CREST MOUNT) BONE TAPPED
AT LOWER 1 OF TUNING ON 11 100, 19, 110 OF
4 ONE 17.2.20

50-22 RUC 4400 3 MC 83-10000
20-11-20 TRL 100 2:13 187

NOTES: 00+01 ALB LAD & NO 3 4 OSG. 10.0m. 10
ONE OTHER TRAVEL LUNOT & NO 3 2.0m. 10.0
COSTS: 173 6.71 WBL 6 ON JUNE 1972/1973 1. 8

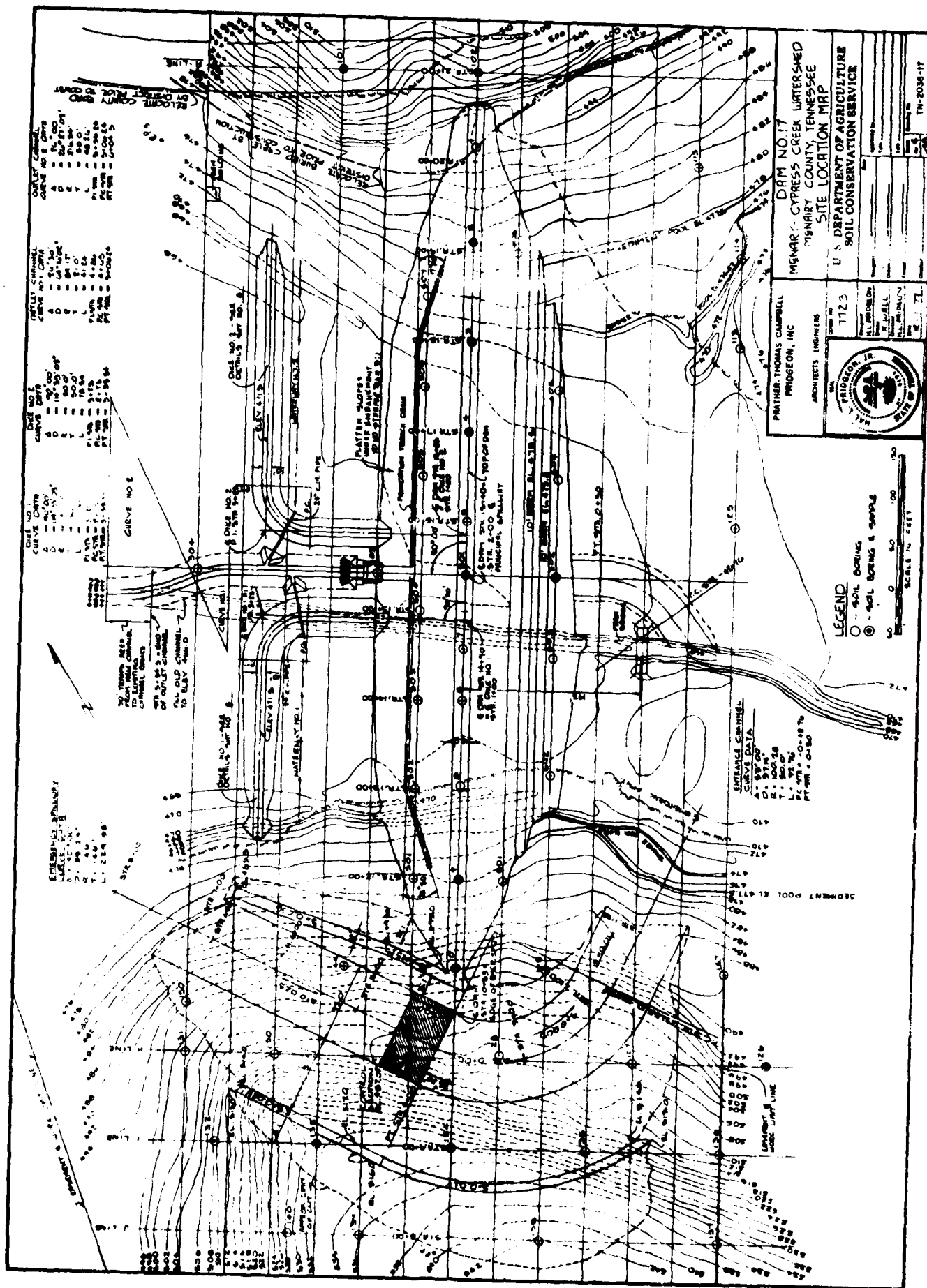
**PRATHER-THOMAS CAMP;
PRIDGON, INC**

SUBJECTS: 100-4111.



DAM NO 17
MILLARY-CYPRESS CREEK WATERWAY
HENRY COUNTY TENNESSEE
RESERVOIR AREA MAP
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

74-2038-17



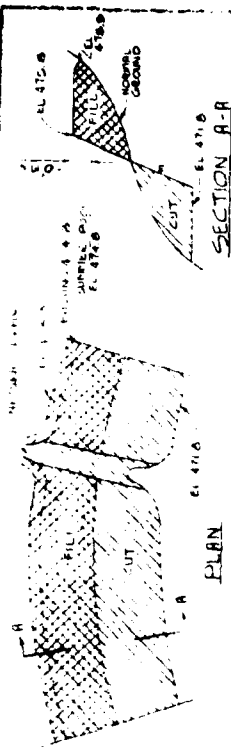
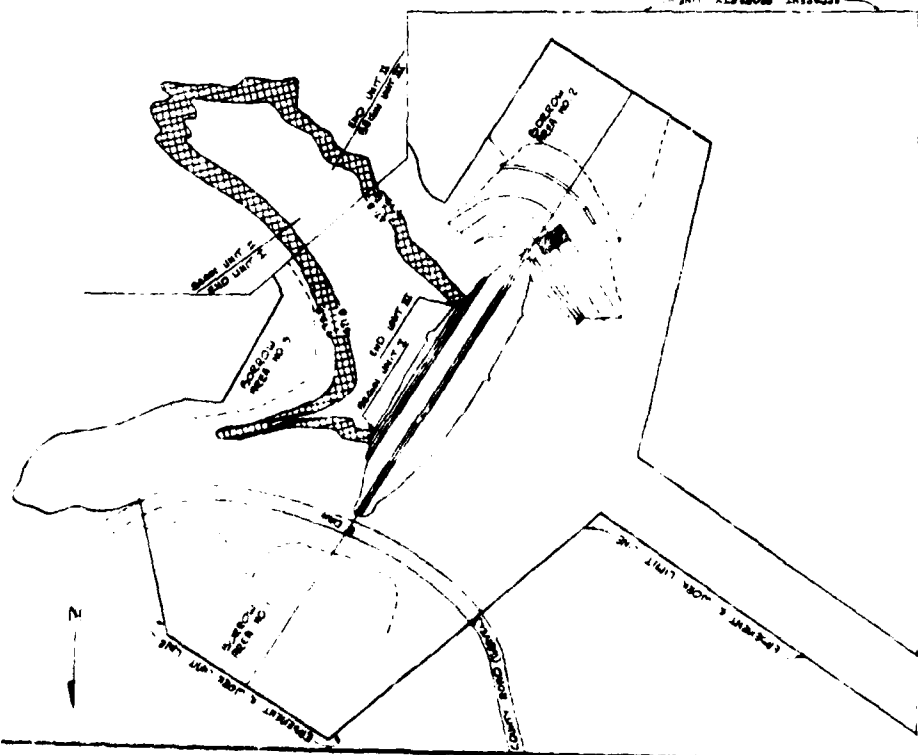
1. THE MEASURE BEEN TAKEN TO PROTECT THE PROPERTY OF THE LANDOWNER FROM THE EFFECTS OF THE FLOODING OF THE CREEK. THE MEASURE HAS BEEN TAKEN TO PROTECT THE PROPERTY OF THE LANDOWNER FROM THE EFFECTS OF THE FLOODING OF THE CREEK. THE MEASURE HAS BEEN TAKEN TO PROTECT THE PROPERTY OF THE LANDOWNER FROM THE EFFECTS OF THE FLOODING OF THE CREEK.

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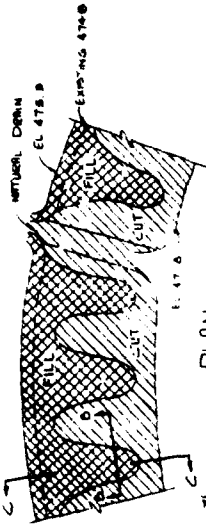
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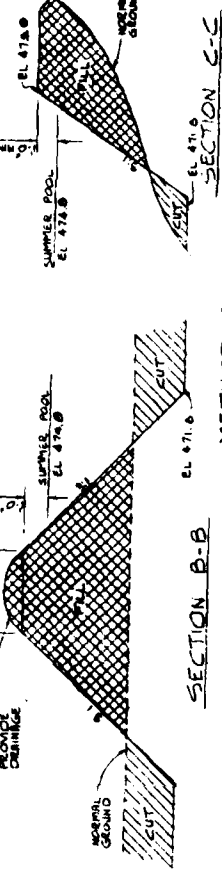
5. THE MEASURE HAS BEEN TAKEN TO PROTECT THE PROPERTY OF THE LANDOWNER FROM THE EFFECTS OF THE FLOODING OF THE CREEK. THE MEASURE HAS BEEN TAKEN TO PROTECT THE PROPERTY OF THE LANDOWNER FROM THE EFFECTS OF THE FLOODING OF THE CREEK. THE MEASURE HAS BEEN TAKEN TO PROTECT THE PROPERTY OF THE LANDOWNER FROM THE EFFECTS OF THE FLOODING OF THE CREEK.



METHOD I



PLAN



METHOD II



METHOD III

DETAILS OF SHORELINE GRADING

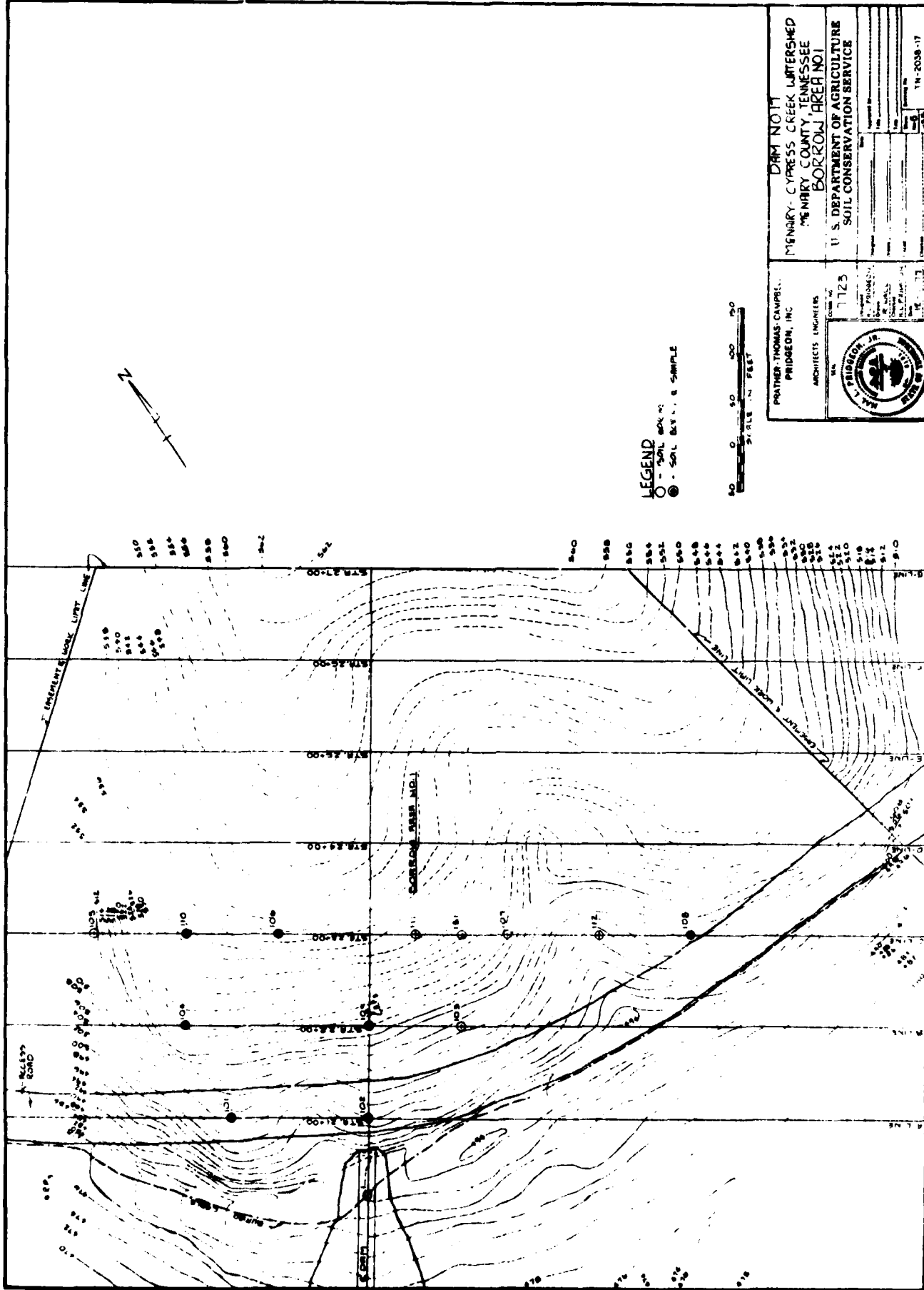
DAM NO. 17
 TENNESSEE-CYPRUS CREEK WATERSHED
 HENRIE COUNTY, TENNESSEE
 SHORELINE GRADING AND GRADING
 DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE

DATE: 11-20-38

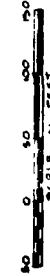
BY: [Signature]

FOR: [Signature]

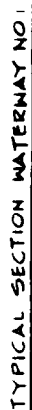
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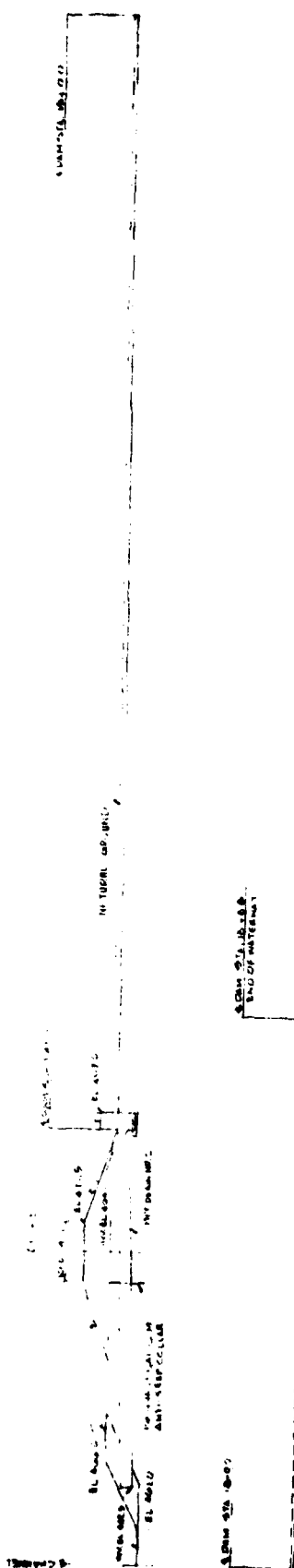


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 ○ - SOIL MON. PT.
 ● - SOIL B.C. & SAMPLE

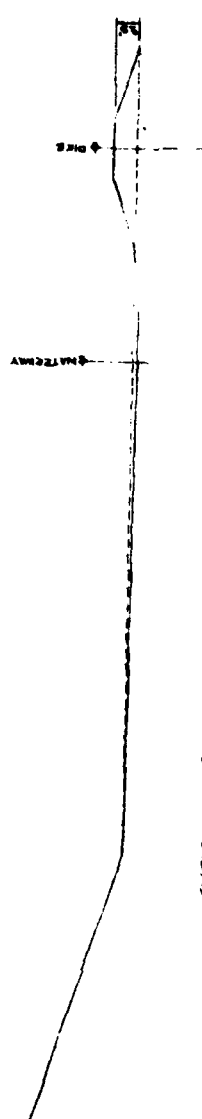


DRAIN NO. 1 HENRY COUNTY, TENNESSEE BORROW AREA NO. 1	
PRATHER, THOMAS CAMPBELL, INC. ARCHITECTS ENGINEERS 7725 	U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE Project No. _____ Date _____ Drawing No. _____ Sheet No. _____ of _____ TN-2038-17

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PROFILE ALONG E WATERWAY NO. 2

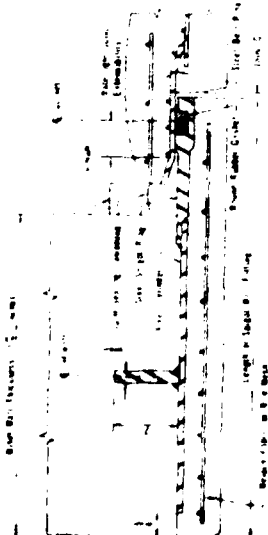


TYPICAL SECTION WATERWAY NO. 2

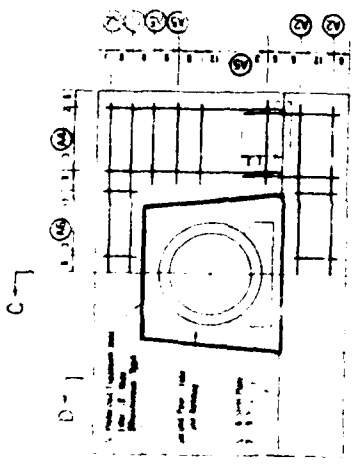
DRM NO. 17
MINNERY-CYPRESS CREEK WATERSHED
MINNERY COUNTY, TENNESSEE
DETAILS OF WATERWAY NO. 2

10 TN-2038-17
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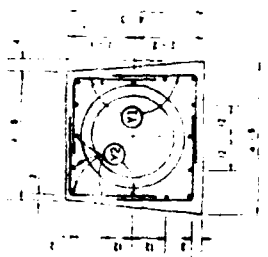
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DETAIL A



DETAIL OF ANTI-SEEP COLLAR



DETAIL OF ANTI-SEEP COLLAR YOKE

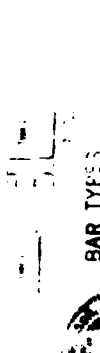
STEEL SCHEDULE

Item	Quantity	Length	Type	Notes
1	10	10'-0"	10	
2	10	10'-0"	10	
3	10	10'-0"	10	
4	10	10'-0"	10	
5	10	10'-0"	10	
6	10	10'-0"	10	
7	10	10'-0"	10	
8	10	10'-0"	10	
9	10	10'-0"	10	
10	10	10'-0"	10	

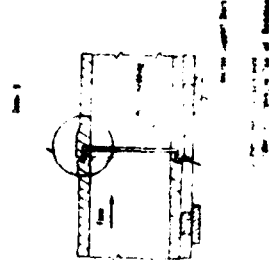
QUANTITIES

Item	Quantity	Notes
1	10	
2	10	
3	10	
4	10	
5	10	
6	10	
7	10	
8	10	
9	10	
10	10	

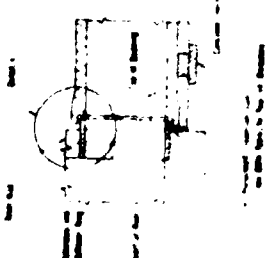
Notes: 1. All dimensions are in feet and inches. 2. All reinforcement is to be placed in accordance with the specifications. 3. All materials are to be of the best quality available.



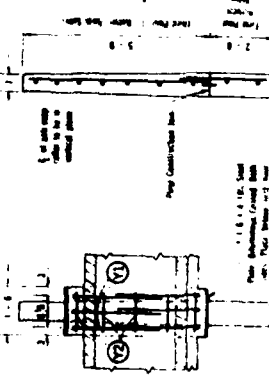
BAR TYPES



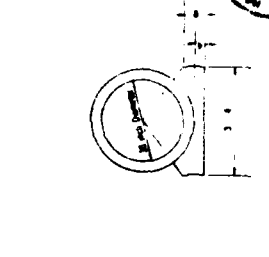
DETAIL OF PIPE JOINT



DETAIL OF SPIGOT AND FITTING



SECTION C-C



SECTION D-D



DETAIL OF BEDDING

STRENGTH REQUIREMENTS

Item	Quantity	Length	Type	Notes
1	10	10'-0"	10	
2	10	10'-0"	10	
3	10	10'-0"	10	
4	10	10'-0"	10	
5	10	10'-0"	10	
6	10	10'-0"	10	
7	10	10'-0"	10	
8	10	10'-0"	10	
9	10	10'-0"	10	
10	10	10'-0"	10	

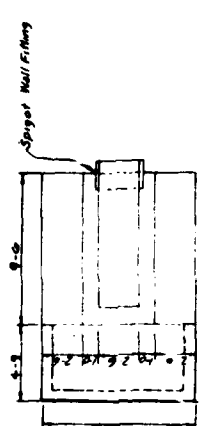
JOINT REQUIREMENTS

Item	Quantity	Length	Type	Notes
1	10	10'-0"	10	
2	10	10'-0"	10	
3	10	10'-0"	10	
4	10	10'-0"	10	
5	10	10'-0"	10	
6	10	10'-0"	10	
7	10	10'-0"	10	
8	10	10'-0"	10	
9	10	10'-0"	10	
10	10	10'-0"	10	

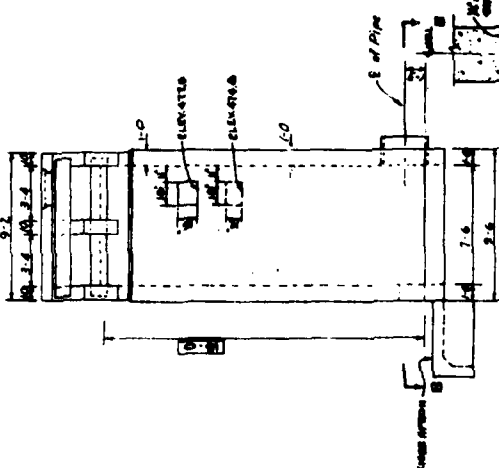
Notes: 1. All dimensions are in feet and inches. 2. All reinforcement is to be placed in accordance with the specifications. 3. All materials are to be of the best quality available.

DRW NO. 17
MEMPHIS, TENNESSEE
DEPARTMENT OF AGRICULTURE
CONSERVATION SERVICE

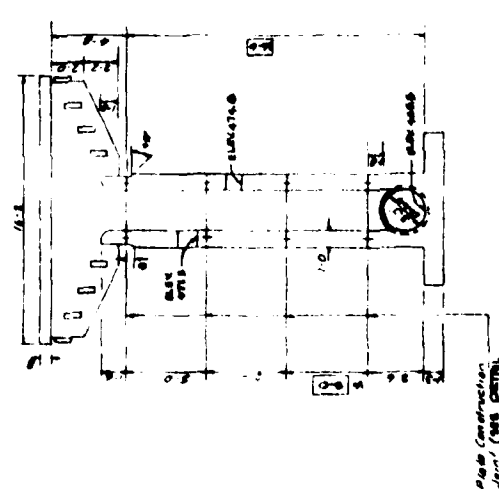
STEEL SCHEDULE									
MARK	SIZE	QUANTITY	LENGTH	TYPE	C	MARK	SIZE	QUANTITY	LENGTH
10	1/2"	1	9'-0"	1		10	1/2"	1	9'-0"
11	1/2"	1	9'-0"	1		11	1/2"	1	9'-0"
12	1/2"	1	9'-0"	1		12	1/2"	1	9'-0"
13	1/2"	1	9'-0"	1		13	1/2"	1	9'-0"
14	1/2"	1	9'-0"	1		14	1/2"	1	9'-0"
15	1/2"	1	9'-0"	1		15	1/2"	1	9'-0"
16	1/2"	1	9'-0"	1		16	1/2"	1	9'-0"
17	1/2"	1	9'-0"	1		17	1/2"	1	9'-0"
18	1/2"	1	9'-0"	1		18	1/2"	1	9'-0"
19	1/2"	1	9'-0"	1		19	1/2"	1	9'-0"
20	1/2"	1	9'-0"	1		20	1/2"	1	9'-0"
21	1/2"	1	9'-0"	1		21	1/2"	1	9'-0"
22	1/2"	1	9'-0"	1		22	1/2"	1	9'-0"
23	1/2"	1	9'-0"	1		23	1/2"	1	9'-0"
24	1/2"	1	9'-0"	1		24	1/2"	1	9'-0"
25	1/2"	1	9'-0"	1		25	1/2"	1	9'-0"
26	1/2"	1	9'-0"	1		26	1/2"	1	9'-0"
27	1/2"	1	9'-0"	1		27	1/2"	1	9'-0"
28	1/2"	1	9'-0"	1		28	1/2"	1	9'-0"
29	1/2"	1	9'-0"	1		29	1/2"	1	9'-0"
30	1/2"	1	9'-0"	1		30	1/2"	1	9'-0"
31	1/2"	1	9'-0"	1		31	1/2"	1	9'-0"
32	1/2"	1	9'-0"	1		32	1/2"	1	9'-0"
33	1/2"	1	9'-0"	1		33	1/2"	1	9'-0"
34	1/2"	1	9'-0"	1		34	1/2"	1	9'-0"
35	1/2"	1	9'-0"	1		35	1/2"	1	9'-0"
36	1/2"	1	9'-0"	1		36	1/2"	1	9'-0"
37	1/2"	1	9'-0"	1		37	1/2"	1	9'-0"
38	1/2"	1	9'-0"	1		38	1/2"	1	9'-0"
39	1/2"	1	9'-0"	1		39	1/2"	1	9'-0"
40	1/2"	1	9'-0"	1		40	1/2"	1	9'-0"
41	1/2"	1	9'-0"	1		41	1/2"	1	9'-0"
42	1/2"	1	9'-0"	1		42	1/2"	1	9'-0"
43	1/2"	1	9'-0"	1		43	1/2"	1	9'-0"
44	1/2"	1	9'-0"	1		44	1/2"	1	9'-0"
45	1/2"	1	9'-0"	1		45	1/2"	1	9'-0"
46	1/2"	1	9'-0"	1		46	1/2"	1	9'-0"
47	1/2"	1	9'-0"	1		47	1/2"	1	9'-0"
48	1/2"	1	9'-0"	1		48	1/2"	1	9'-0"
49	1/2"	1	9'-0"	1		49	1/2"	1	9'-0"
50	1/2"	1	9'-0"	1		50	1/2"	1	9'-0"
51	1/2"	1	9'-0"	1		51	1/2"	1	9'-0"
52	1/2"	1	9'-0"	1		52	1/2"	1	9'-0"
53	1/2"	1	9'-0"	1		53	1/2"	1	9'-0"
54	1/2"	1	9'-0"	1		54	1/2"	1	9'-0"
55	1/2"	1	9'-0"	1		55	1/2"	1	9'-0"
56	1/2"	1	9'-0"	1		56	1/2"	1	9'-0"
57	1/2"	1	9'-0"	1		57	1/2"	1	9'-0"
58	1/2"	1	9'-0"	1		58	1/2"	1	9'-0"
59	1/2"	1	9'-0"	1		59	1/2"	1	9'-0"
60	1/2"	1	9'-0"	1		60	1/2"	1	9'-0"
61	1/2"	1	9'-0"	1		61	1/2"	1	9'-0"
62	1/2"	1	9'-0"	1		62	1/2"	1	9'-0"
63	1/2"	1	9'-0"	1		63	1/2"	1	9'-0"
64	1/2"	1	9'-0"	1		64	1/2"	1	9'-0"
65	1/2"	1	9'-0"	1		65	1/2"	1	9'-0"
66	1/2"	1	9'-0"	1		66	1/2"	1	9'-0"
67	1/2"	1	9'-0"	1		67	1/2"	1	9'-0"
68	1/2"	1	9'-0"	1		68	1/2"	1	9'-0"
69	1/2"	1	9'-0"	1		69	1/2"	1	9'-0"
70	1/2"	1	9'-0"	1		70	1/2"	1	9'-0"
71	1/2"	1	9'-0"	1		71	1/2"	1	9'-0"
72	1/2"	1	9'-0"	1		72	1/2"	1	9'-0"
73	1/2"	1	9'-0"	1		73	1/2"	1	9'-0"
74	1/2"	1	9'-0"	1		74	1/2"	1	9'-0"
75	1/2"	1	9'-0"	1		75	1/2"	1	9'-0"
76	1/2"	1	9'-0"	1		76	1/2"	1	9'-0"
77	1/2"	1	9'-0"	1		77	1/2"	1	9'-0"
78	1/2"	1	9'-0"	1		78	1/2"	1	9'-0"
79	1/2"	1	9'-0"	1		79	1/2"	1	9'-0"
80	1/2"	1	9'-0"	1		80	1/2"	1	9'-0"
81	1/2"	1	9'-0"	1		81	1/2"	1	9'-0"
82	1/2"	1	9'-0"	1		82	1/2"	1	9'-0"
83	1/2"	1	9'-0"	1		83	1/2"	1	9'-0"
84	1/2"	1	9'-0"	1		84	1/2"	1	9'-0"
85	1/2"	1	9'-0"	1		85	1/2"	1	9'-0"
86	1/2"	1	9'-0"	1		86	1/2"	1	9'-0"
87	1/2"	1	9'-0"	1		87	1/2"	1	9'-0"
88	1/2"	1	9'-0"	1		88	1/2"	1	9'-0"
89	1/2"	1	9'-0"	1		89	1/2"	1	9'-0"
90	1/2"	1	9'-0"	1		90	1/2"	1	9'-0"
91	1/2"	1	9'-0"	1		91	1/2"	1	9'-0"
92	1/2"	1	9'-0"	1		92	1/2"	1	9'-0"
93	1/2"	1	9'-0"	1		93	1/2"	1	9'-0"
94	1/2"	1	9'-0"	1		94	1/2"	1	9'-0"
95	1/2"	1	9'-0"	1		95	1/2"	1	9'-0"
96	1/2"	1	9'-0"	1		96	1/2"	1	9'-0"
97	1/2"	1	9'-0"	1		97	1/2"	1	9'-0"
98	1/2"	1	9'-0"	1		98	1/2"	1	9'-0"
99	1/2"	1	9'-0"	1		99	1/2"	1	9'-0"
100	1/2"	1	9'-0"	1		100	1/2"	1	9'-0"



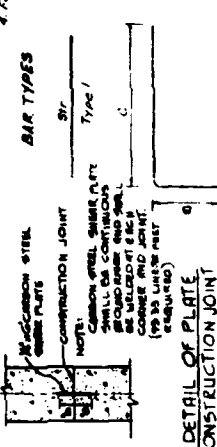
SECTION B-B



SECTION A-A



SECTION A-A



DETAIL OF PLATE CONSTRUCTION JOINT

QUANTITIES
 1. Bar Dimensions: 1/2" x 9'-0"
 2. Bar Dimensions: 1/2" x 9'-0"
 3. Bar Dimensions: 1/2" x 9'-0"
 4. Bar Dimensions: 1/2" x 9'-0"
 5. Bar Dimensions: 1/2" x 9'-0"
 6. Bar Dimensions: 1/2" x 9'-0"
 7. Bar Dimensions: 1/2" x 9'-0"
 8. Bar Dimensions: 1/2" x 9'-0"
 9. Bar Dimensions: 1/2" x 9'-0"
 10. Bar Dimensions: 1/2" x 9'-0"



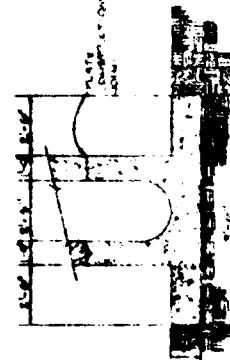
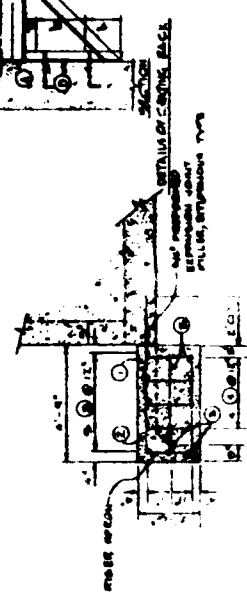
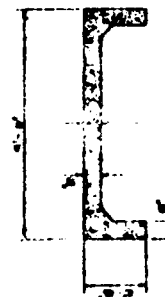
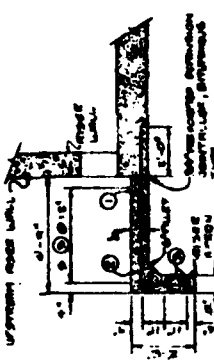
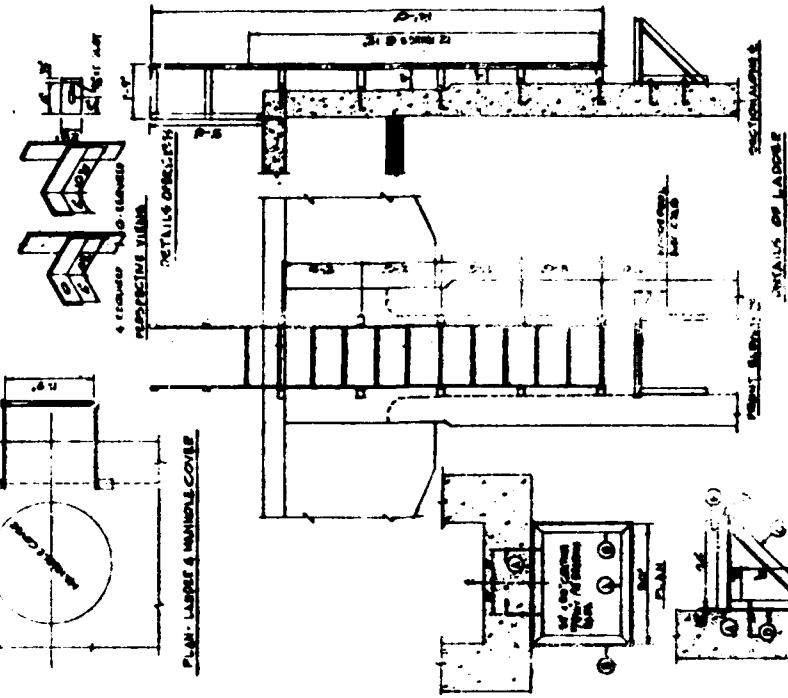
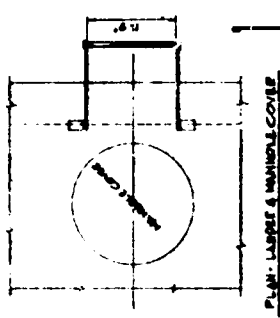
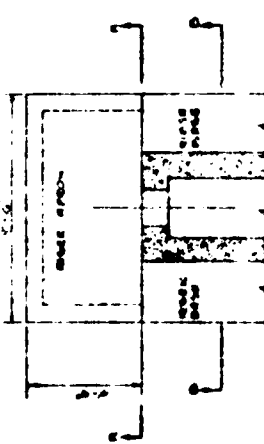
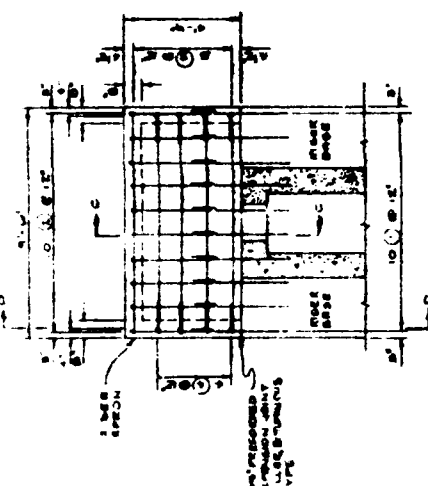
DRM NO. 17
 MENIRY-CYPRESS CREEK WATERSHED
 MENIRY COUNTY, TENNESSEE
 RISER DETAILS
 U.S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 16-2038-17

1000

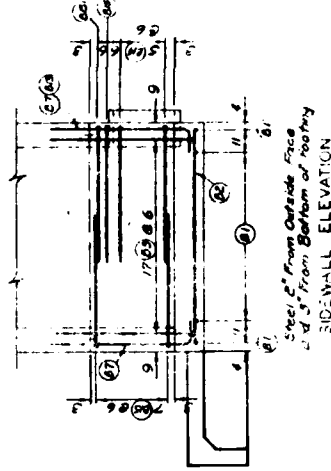
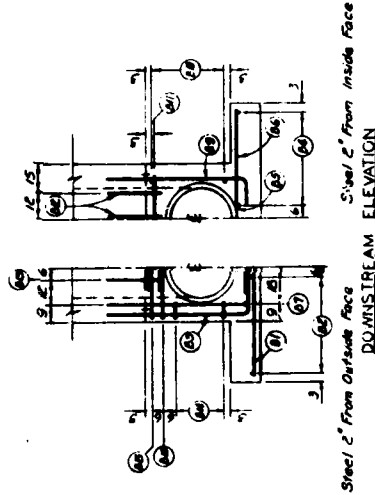
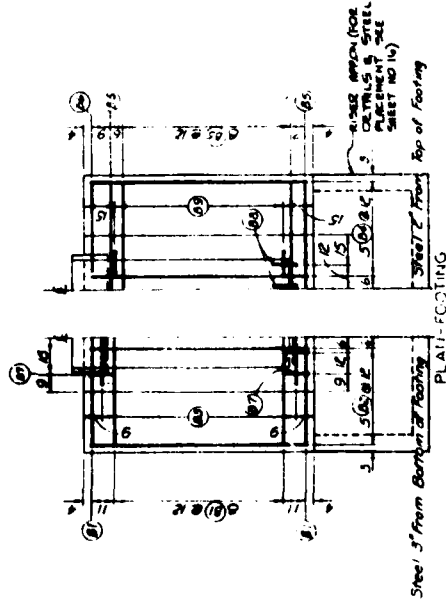
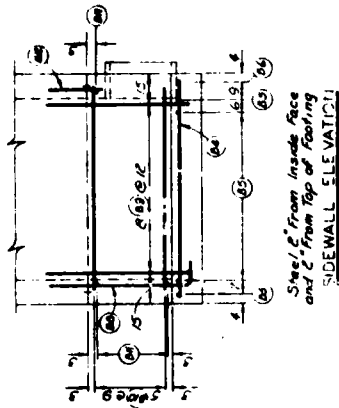
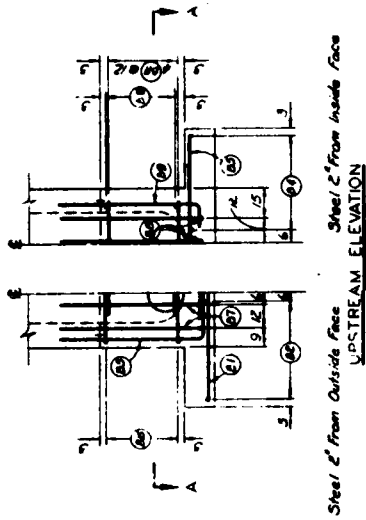
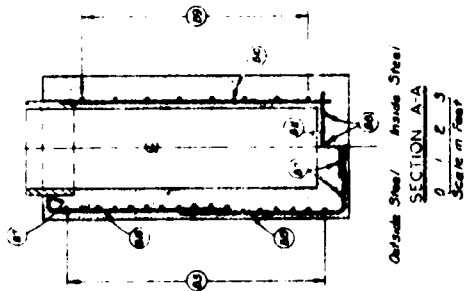
NOTES
EADING UP BEHIND SODALITY BUILDING
2 GAS DIMENSIONS ARE OUT TO OUT OF BARS.
4 "16 5/8 X 4 7/8" DIMENSIONS FROM FACE OF
ANCHORS TO STEEL ARE C-TRAIL DIMENSIONS

QUANTITIES	
WED 2:00 PM '91	40 BARS... 159 GUMPT... 104.54.00
	40 BARS... 40 GUMPT... 00.00.00
	WED 2:00 PM '91
	WED 2:00 PM '91

NO. OF MATERIAL FOR LADDER ASSEMBLIES	NO. OF LADDER ASSEMBLIES	NO. OF LADDER ASSEMBLIES	NO. OF LADDER ASSEMBLIES
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
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73	73	73	73
74	74	74	74
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76	76	76	76
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90	90	90	90
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92	92	92	92
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94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

[illegible]

NOTE
FIELD CUT ON B. & D. STEEL
AS REQUIRED TO INSTALL
HANDLE FOR 18" DIAMETER



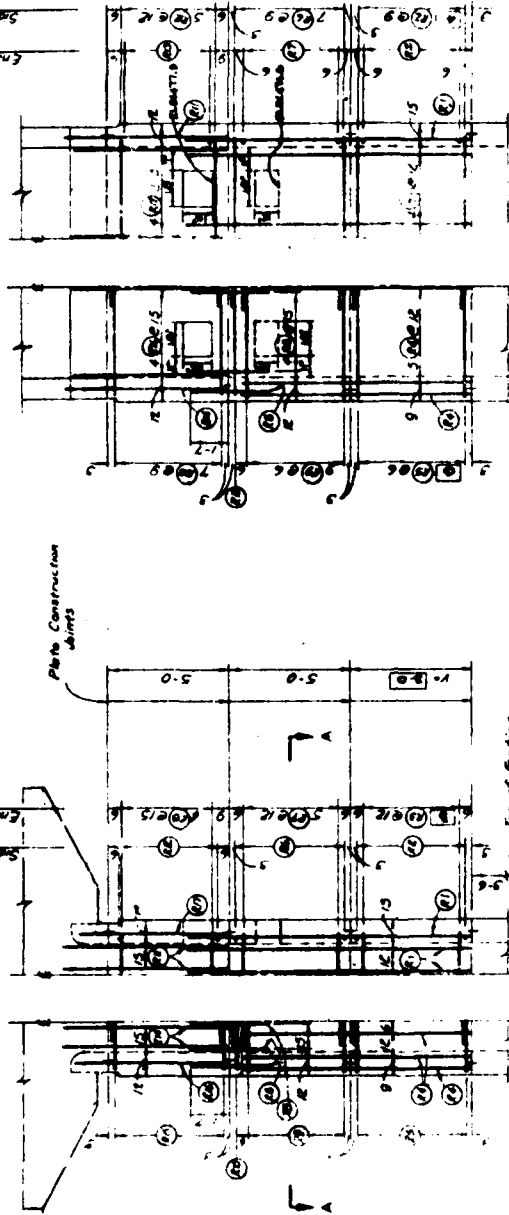
Scale in Feet
0 2 4
Unless Otherwise Shown



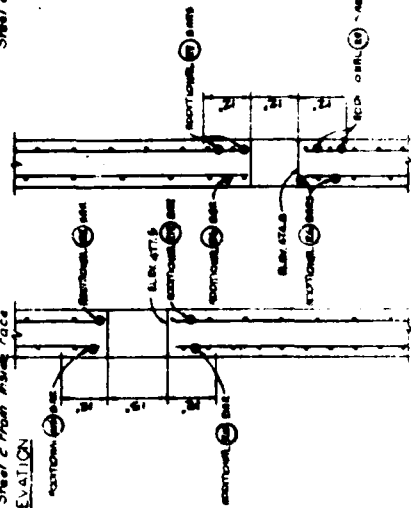
DRM NO. 17
MENIRY CYPRESS CREEK WATERSHED
MENIRY COUNTY, TENNESSEE
RIVER DETAILS
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
PROJECT NO. 17-2008-17

BAFFLED INLET RISER
30" - 2008
5.72

NOTE
FIELD JOINT BEND
USE 1/2" MIN. - 1/4" MAX. STEEL
BE WELDED - 1/4" MIN. 1/4" MAX.
8" x 12" x 1/4" ON SPILL BUILT
CONCRETE BEAM ENJOINT



Site - 4' from Outside Face Steel Elevation Inside Face Steel Elevation SIDEWALL ELEVATION



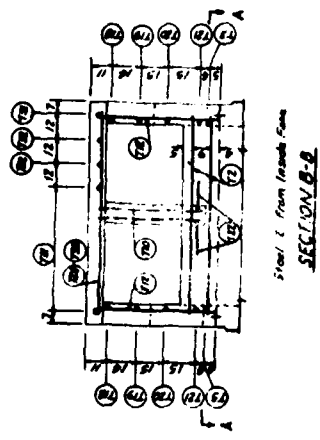
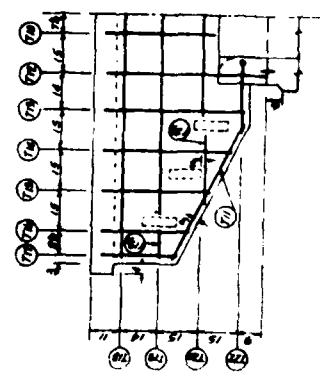
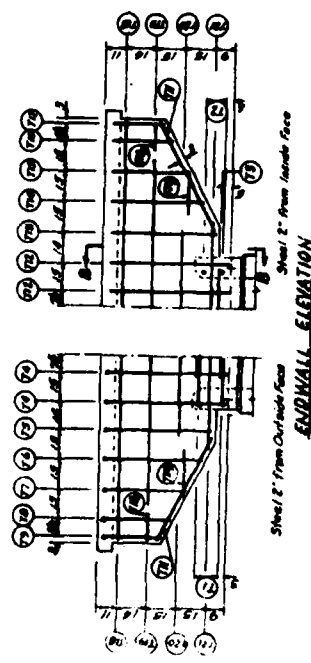
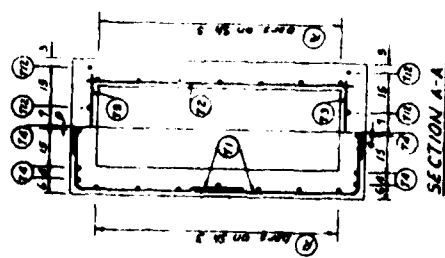
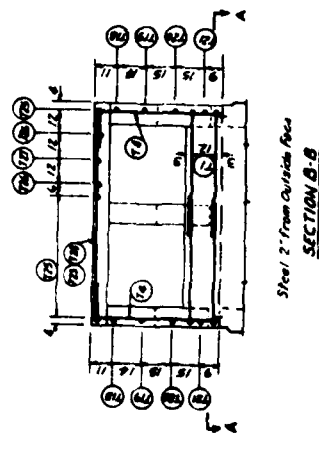
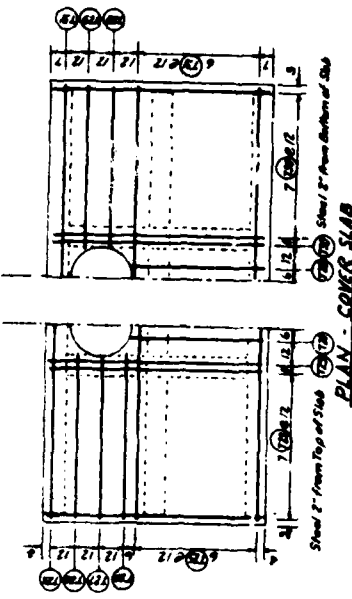
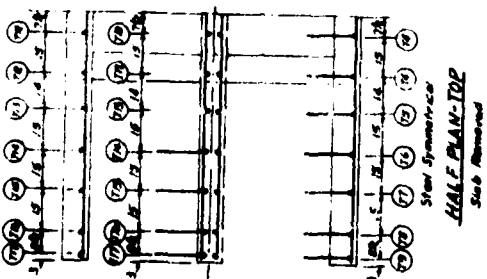
0 2 4
Feet
1/4" = 1' Overall Scale

DAM NO. 17
INDIAN CYPRESS CREEK WATERSHED
NIMBLE CREEK, TENNESSEE
RISER DETAILS
DEPARTMENT OF AGRICULTURE
NATURAL CONSERVATION SERVICE



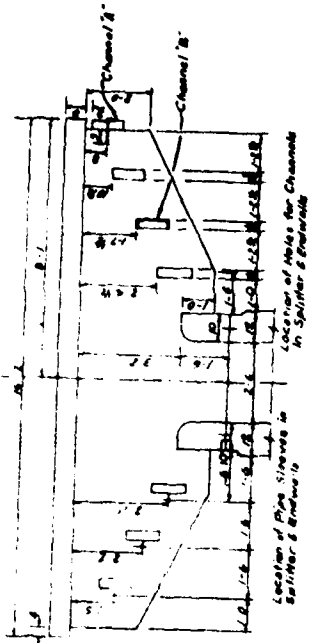
REVISIONS
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100. 11/1/54

DATE: 10/1/54
BY: J. R. R. S. P.
10-21208
53314

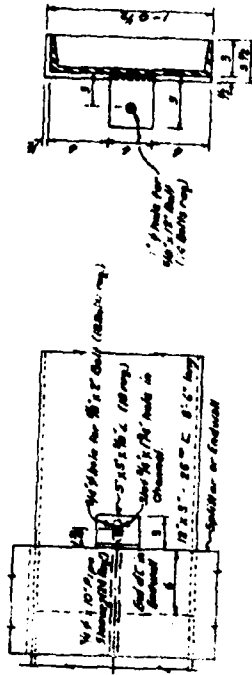


DRM NO. 17
MENHRY-CYPRESS CREEK WATERSHED
HENRY COUNTY, TENNESSEE
RISER DETAILS
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DATE: 1-77
BY: J. C. P.
CHECKED: J. C. P.
TIN: 2038-17
C-2038-17

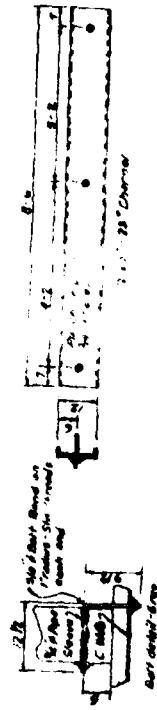
BAFFLED INLET RISER
30" TOP
1-77 Sheet 4 of 5



SECTION C-C



CHANNEL B
(if required)



CHANNEL A
(if required)

Note:
Holes to be drilled in place
of bolts shown. Use angles, channels and a
to be not the same as after fabrication.

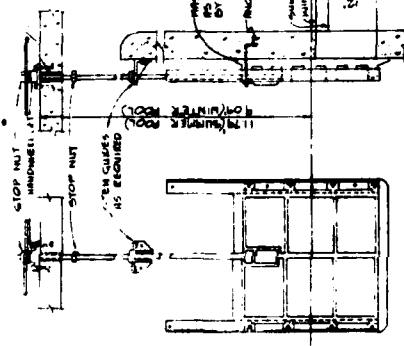


DAM NO. 17
MONTGOMERY CREEK WATERWHEEL
HENRY COUNTY, TENNESSEE
RIVER DETAILS

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

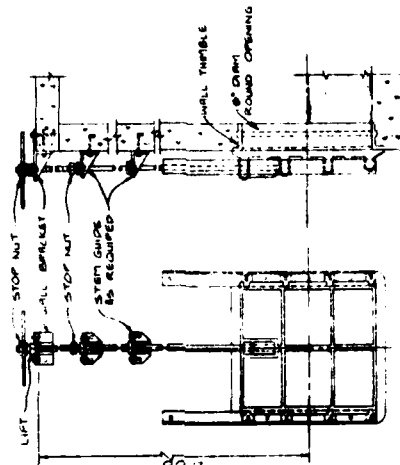
DATE: 10-1-54
BY: [Signature]
CHECKED: [Signature]
APPROVED: [Signature]

BUTLER, M. P. RIVER
31 CHANNEL 24
1954

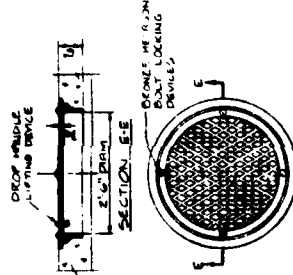
[illegible]

THE GATE ASSEMBLY SHALL INCLUDE THE FOLLOWING:

1. 100 x 10⁶ cells were grown in 100 ml of medium in 250 ml Erlenmeyer flask containing 100 ml of medium.



DETAILS OF 18" SQUARE SLIDE GATE
(continued)



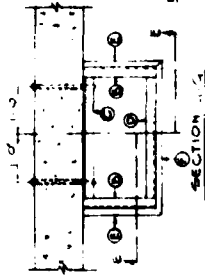
PLAN

DETAILS OF MANHOLE COVER

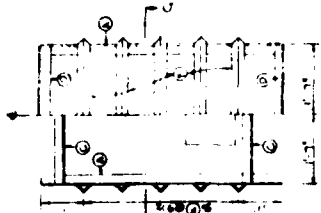
NOTE
MAYNARD CASE SHIRT, BY MODEL NO. E 6017, WITH
TYPE "A" BELT HOOKS, AND TYPE "B" BRONZE
HANGER BUT LOCKING CLASPS, MANUFACTURED BY
MILBURN FOUNDRY CO. PHNY, MILWAUKEE WISCONSIN,
U.S.A.



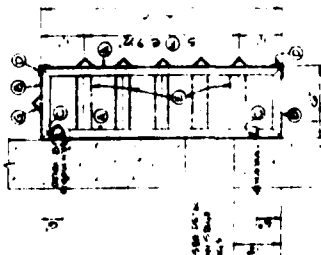
De. Ailsa Macmillan



SECTION



SECTION E-2



SECTION NUMBER 2

DETAILS OF LOW STAGE TRASH RACK

2. Requirements

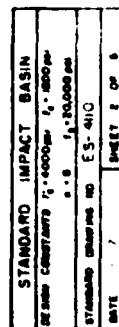
NAME	ADDRESS	PHONE	DATE	TIME
Mr. J. H. Smith	123 Main St.	456-7890	10/15/54	2:30
Mr. W. R. Jones	456 Elm St.	789-0123	10/16/54	3:45
Mr. T. A. Brown	789 Oak St.	012-3456	10/17/54	4:15
Mr. S. L. Green	012 Pine St.	345-6789	10/18/54	5:00
Mr. M. K. White	345 Cedar St.	678-9012	10/19/54	6:15
Mr. L. P. Black	678 Birch St.	901-2345	10/20/54	7:30
Mr. N. Q. Gray	901 Spruce St.	234-5678	10/21/54	8:45
Mr. R. S. Blue	234 Fir St.	567-8901	10/22/54	9:15
Mr. U. V. Yellow	567 Willow St.	890-1234	10/23/54	10:30
Mr. X. W. Purple	890 Ash St.	123-4567	10/24/54	11:45
Mr. Y. Z. Pink	123 Hickory St.	456-7890	10/25/54	12:15

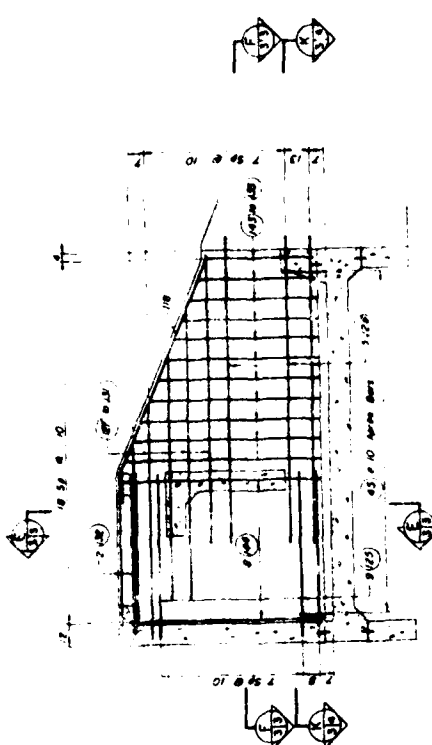
DAM NO 17
MILLARY CYPRESS CREEK, WATERSHED
IN MARSH COUNTY, TENNESSEE
ENTRANCE RACK & HEADGATE DETAILS
FOR THE NATIONAL AGRICULTURE
SERVICE



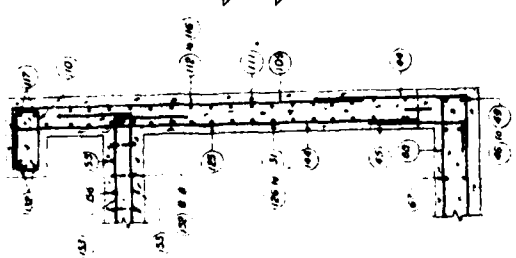
21 TN-2038-17

[illegible]



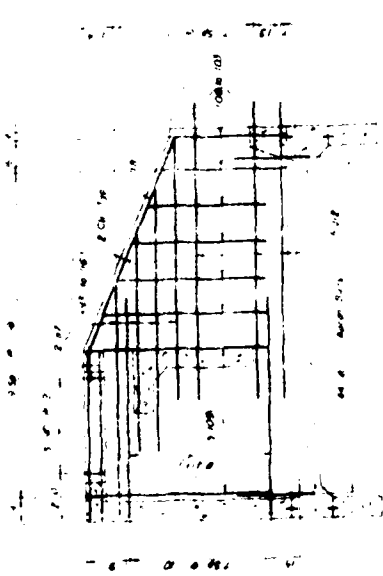


EXPOSED FACE
ELEVATION SIDE WALL

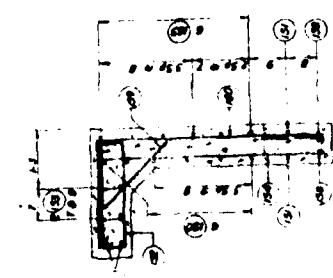


SECTION

SCALE IN FEET

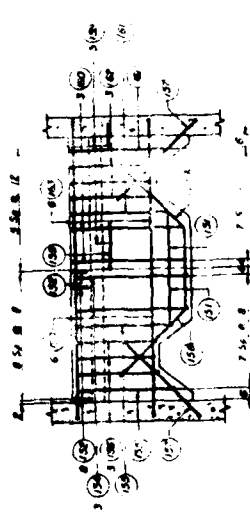


UNEXPOSED FACE
ELEVATION SIDE WALL

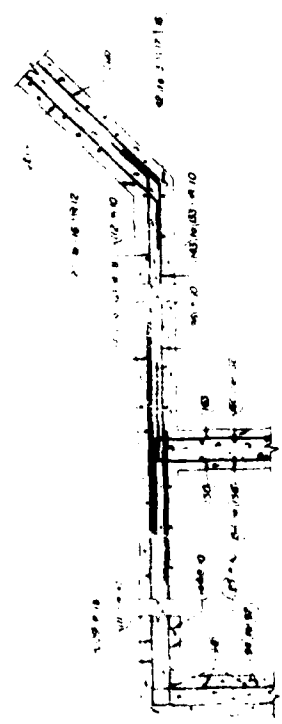


SECTION

SCALE IN FEET



UPSTREAM FACE
ELEVATION



DOWNSTREAM FACE
ELEVATION

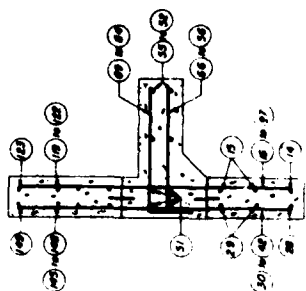
DAM NO. 17
HENRY CYPRESS CREEK, TENNESSEE
CHILDS & COMPANY, INC.
DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE



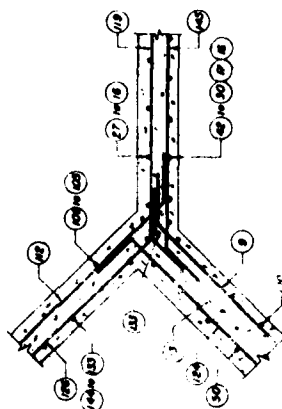
STANDARD DRAWING
NO. 17
DATE 10/1/57

STANDARD DRAWING	NO. 17	BA
DATE	10/1/57	
BY	CHILDS & COMPANY, INC.	
CHECKED		
APPROVED		

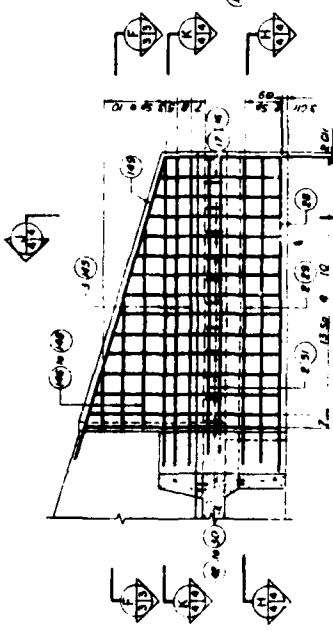
PA 2048-17
10/1/57



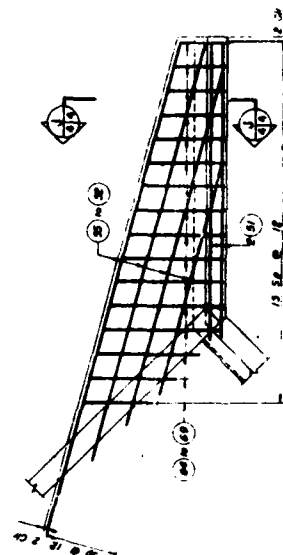
SECTION
SCALE IN FEET



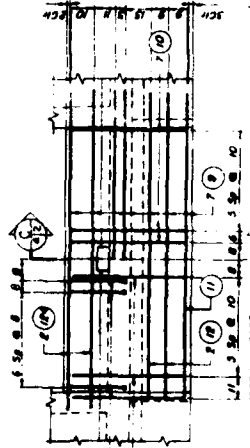
SECTION
SCALE IN FEET



EXPOSED FACE
WINGWALL ELEVATION

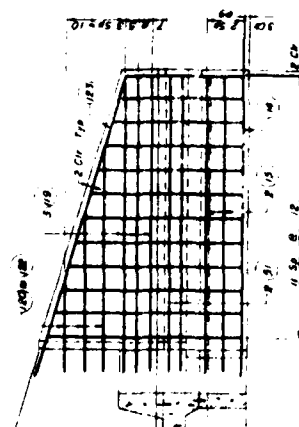


PLAN WINGWALL FOOTING

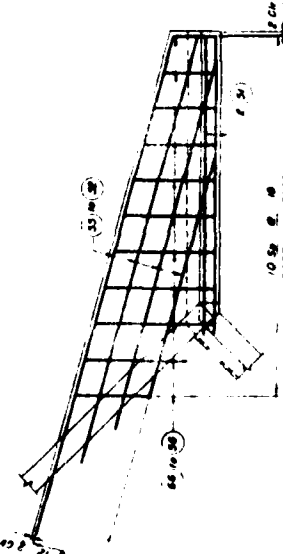


UPSTREAM FACE

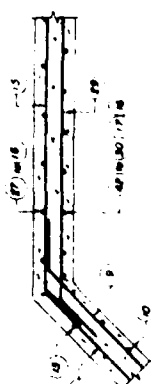
ELEVATION OF END SILL & TOEWALL



UNEXPOSED FACE
WINGWALL ELEVATION



PLAN WINGWALL FOOTING

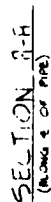
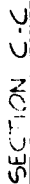


SECTION
SCALE IN FEET

DRM NO. 17
MENDLEY-CYPRESS CREEK WATERSHED
MENDLEY COUNTY, TENNESSEE
DETAILS OF IMPACT BASIN
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

STANDARD IMPACT BASIN	
DESIGN CONTRACT NO. 40000-1-10000	
STANDARD DRAWING NO. ES-4110	
DATE	SHEET 1 OF 3

SCALE IN FEET



ALL 4" & 6" BRONZE-CLAMP
PIPE AND FITTINGS SHALL MEET
THE MINIMUM REQUIREMENTS FOR
CLASS 100 (PRESSURE PIPE)

FINE FILTER GRADATION		
SIEVE SIZE	% PASSING	
3/8"	100	
# 4	95 - 100	
# 10	100 - 90	
# 20	9 - 30	
# 100	0 - 10	
# 200	0 - 5	

PLATE CARDS

FINGER SAMPLES	
FINE FILTER	86 CUVDS.
COARSE FILTER	17 CUVDS.

PRATHER THOMAS CAMPBELL

PRODUCTION, INC.

ARCHITECTS ENGINEERS



DAM NO : 7

UNIT NO. 1
T14 NAR 1-1 CYPRESS CREEK WATERSHED

McNairy County, Tennessee

MANHATTAN COUNTY, TENNESSEE
FILTER DETAILS - IMPACT BASIN

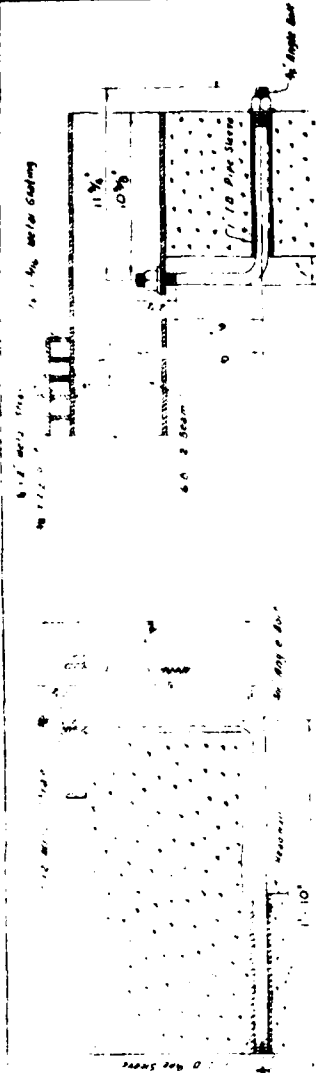
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

DATE	DESCRIPTION	AMOUNT	BALANCE
1950-1-1	OPENING BALANCE		100.00
1950-1-15	PAID TO J. H. SMITH	25.00	75.00
1950-2-1	RECEIVED FROM J. H. SMITH	15.00	90.00
1950-2-15	PAID TO J. H. SMITH	10.00	80.00
1950-3-1	RECEIVED FROM J. H. SMITH	20.00	100.00
1950-3-15	PAID TO J. H. SMITH	15.00	85.00
1950-4-1	RECEIVED FROM J. H. SMITH	15.00	100.00
1950-4-15	PAID TO J. H. SMITH	10.00	90.00
1950-5-1	RECEIVED FROM J. H. SMITH	10.00	100.00
1950-5-15	PAID TO J. H. SMITH	5.00	95.00
1950-6-1	RECEIVED FROM J. H. SMITH	5.00	100.00
1950-6-15	PAID TO J. H. SMITH	5.00	95.00
1950-7-1	RECEIVED FROM J. H. SMITH	5.00	100.00
1950-7-15	PAID TO J. H. SMITH	5.00	95.00
1950-8-1	RECEIVED FROM J. H. SMITH	5.00	100.00
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1950-9-1	RECEIVED FROM J. H. SMITH	5.00	100.00
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1950-11-1	RECEIVED FROM J. H. SMITH	5.00	100.00
1950-11-15	PAID TO J. H. SMITH	5.00	95.00
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1951-7-15	PAID TO J. H. SMITH	5.00	95.00
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1951-8-15	PAID TO J. H. SMITH	5.00	95.00
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1952-7-15	PAID TO J. H. SMITH	5.00	95.00
1952-8-1	RECEIVED FROM J. H. SMITH	5.00	100.00
1952-8-15	PAID TO J. H. SMITH	5.00	95.00
1952-9-1	RECEIVED FROM J. H. SMITH	5.00	100.00
1952-9-15	PAID TO J. H. SMITH	5.00	95.00
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1952-11-1	RECEIVED FROM J. H. SMITH	5.00	100.00

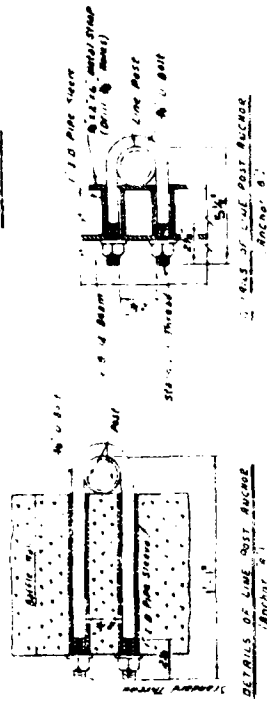
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14-2036-17

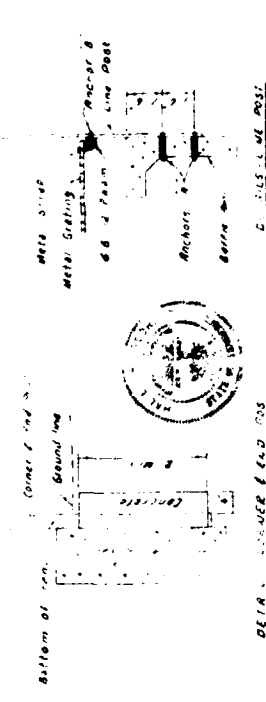
TN-2038-17



DETAIL B



DETAIL D



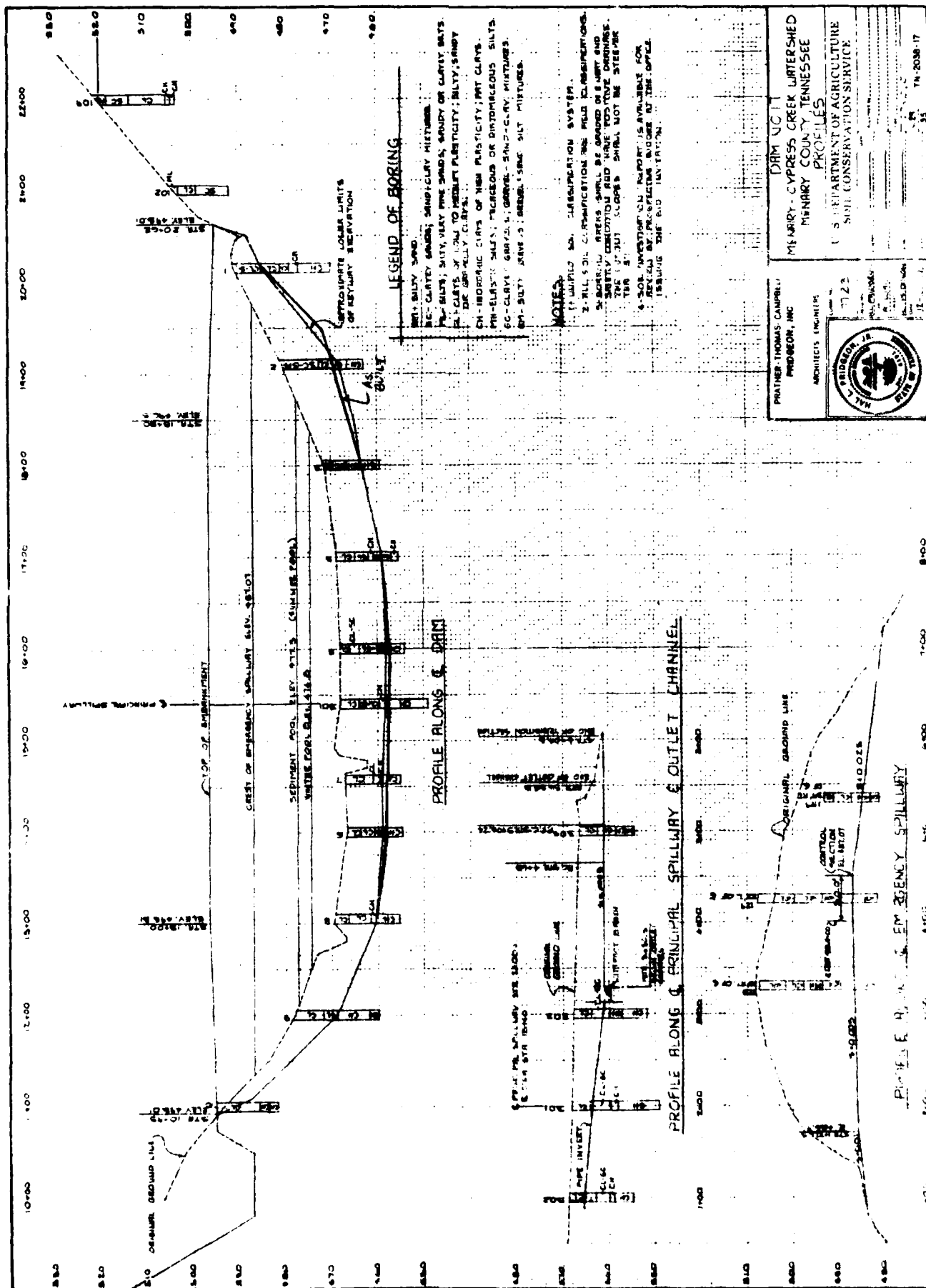
DETAIL F

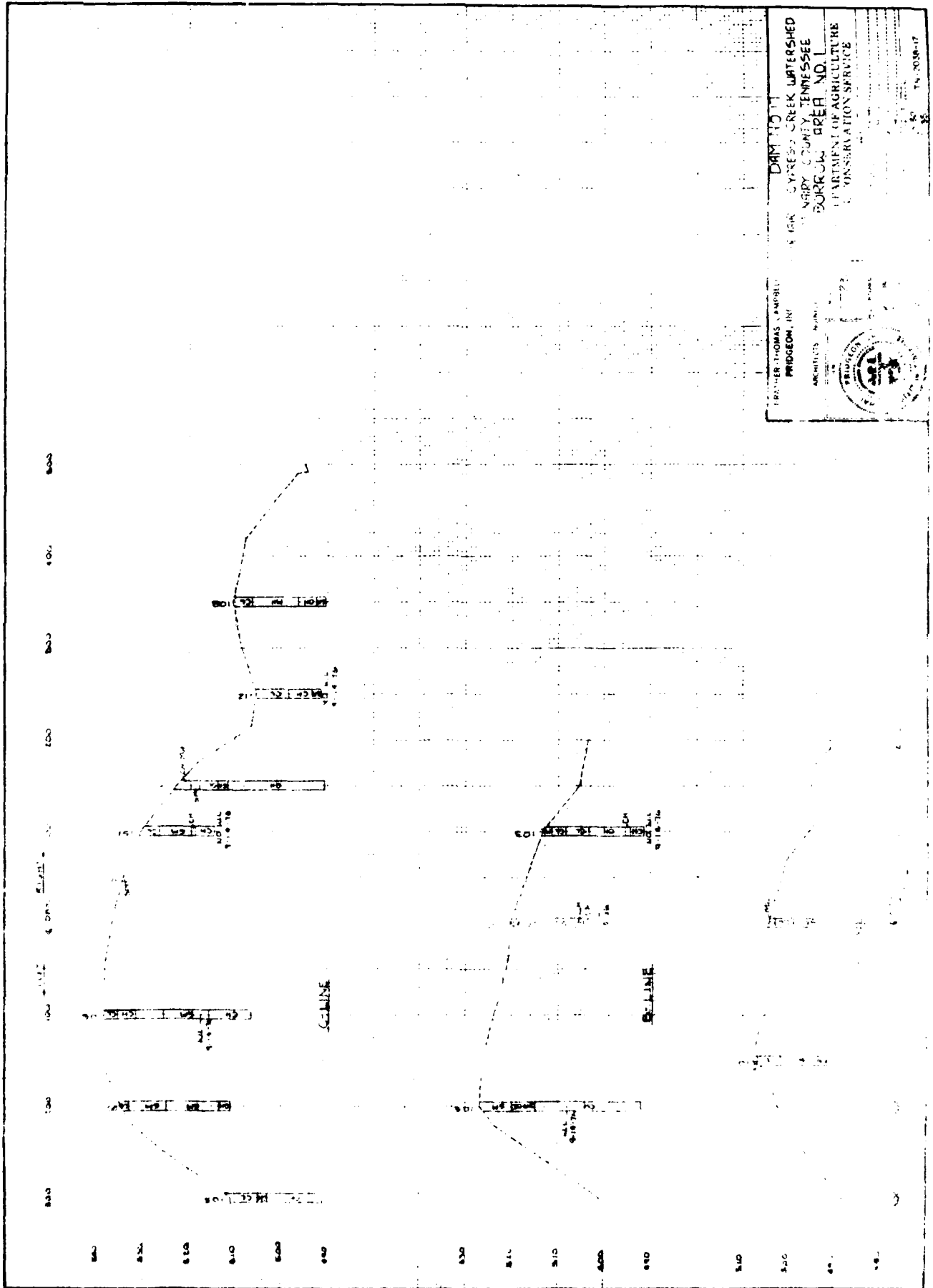
- ALL OF THE FOLLOWING ARE TO BE USED IN THE CONSTRUCTION OF THE BASIN:
- 1. 1/2 inch steel bars
 - 2. 1/2 inch wire mesh
 - 3. 1/2 inch steel bars
 - 4. 1/2 inch wire mesh
 - 5. 1/2 inch steel bars
 - 6. 1/2 inch wire mesh
 - 7. 1/2 inch steel bars
 - 8. 1/2 inch wire mesh
 - 9. 1/2 inch steel bars
 - 10. 1/2 inch wire mesh

- ALL OF THE FOLLOWING ARE TO BE USED IN THE CONSTRUCTION OF THE BASIN:
- 1. 1/2 inch steel bars
 - 2. 1/2 inch wire mesh
 - 3. 1/2 inch steel bars
 - 4. 1/2 inch wire mesh
 - 5. 1/2 inch steel bars
 - 6. 1/2 inch wire mesh
 - 7. 1/2 inch steel bars
 - 8. 1/2 inch wire mesh
 - 9. 1/2 inch steel bars
 - 10. 1/2 inch wire mesh

DRM NO. 17
CYPRESS CREEK WATERED
MADISON COUNTY, TENNESSEE
BASIN COVER & FENCE DETAILS
DEPARTMENT OF AGRICULTURE
CONSERVATION SERVICE

NOTES:
1. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
2. ALL REINFORCEMENT IS TO BE PLACED IN ACCORDANCE WITH THE FOLLOWING:
a. 1/2 inch steel bars are to be spaced at 12 inches on center.
b. 1/2 inch wire mesh is to be spaced at 12 inches on center.
c. 1/2 inch steel bars are to be spaced at 12 inches on center.
d. 1/2 inch wire mesh is to be spaced at 12 inches on center.



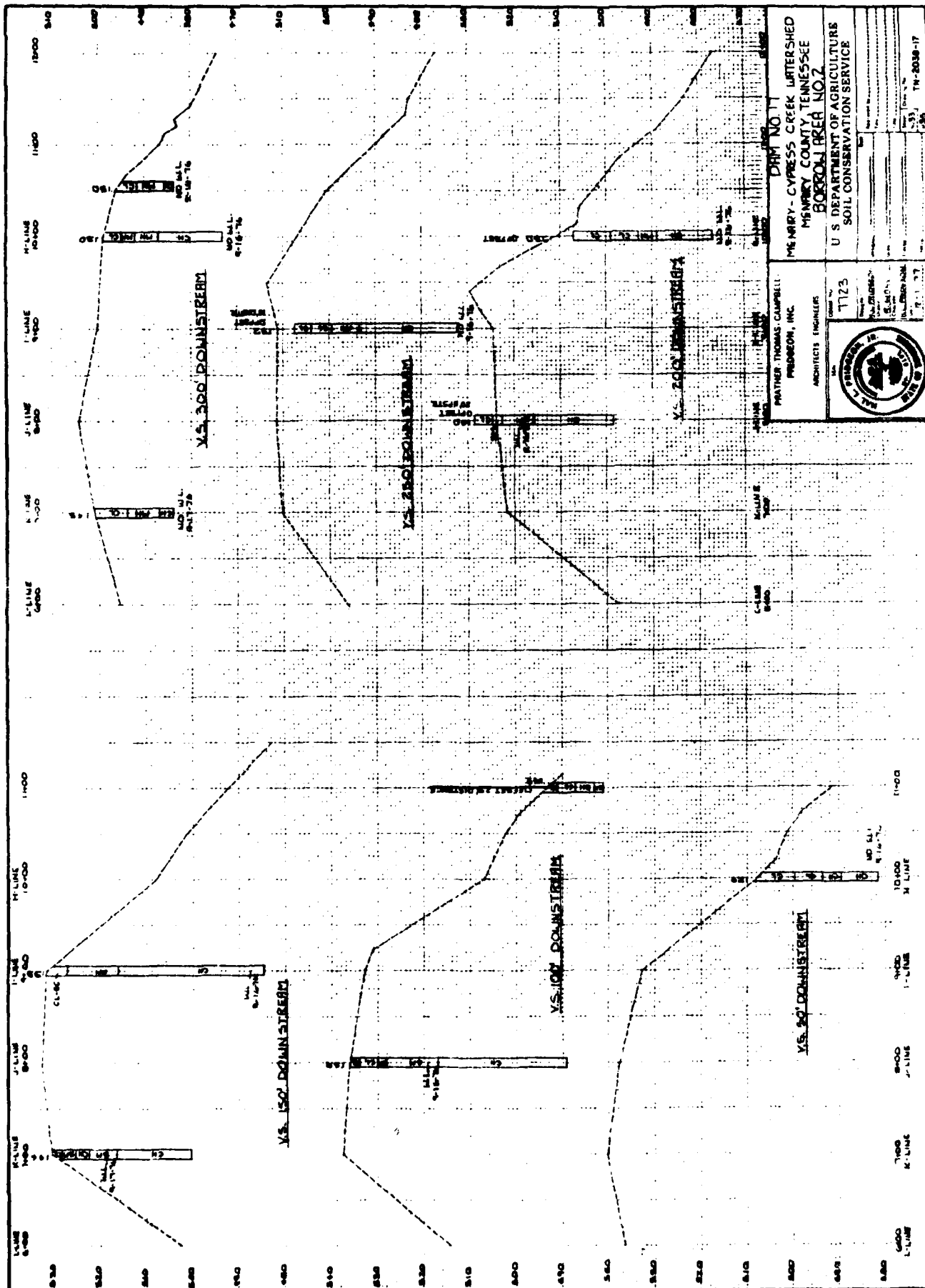


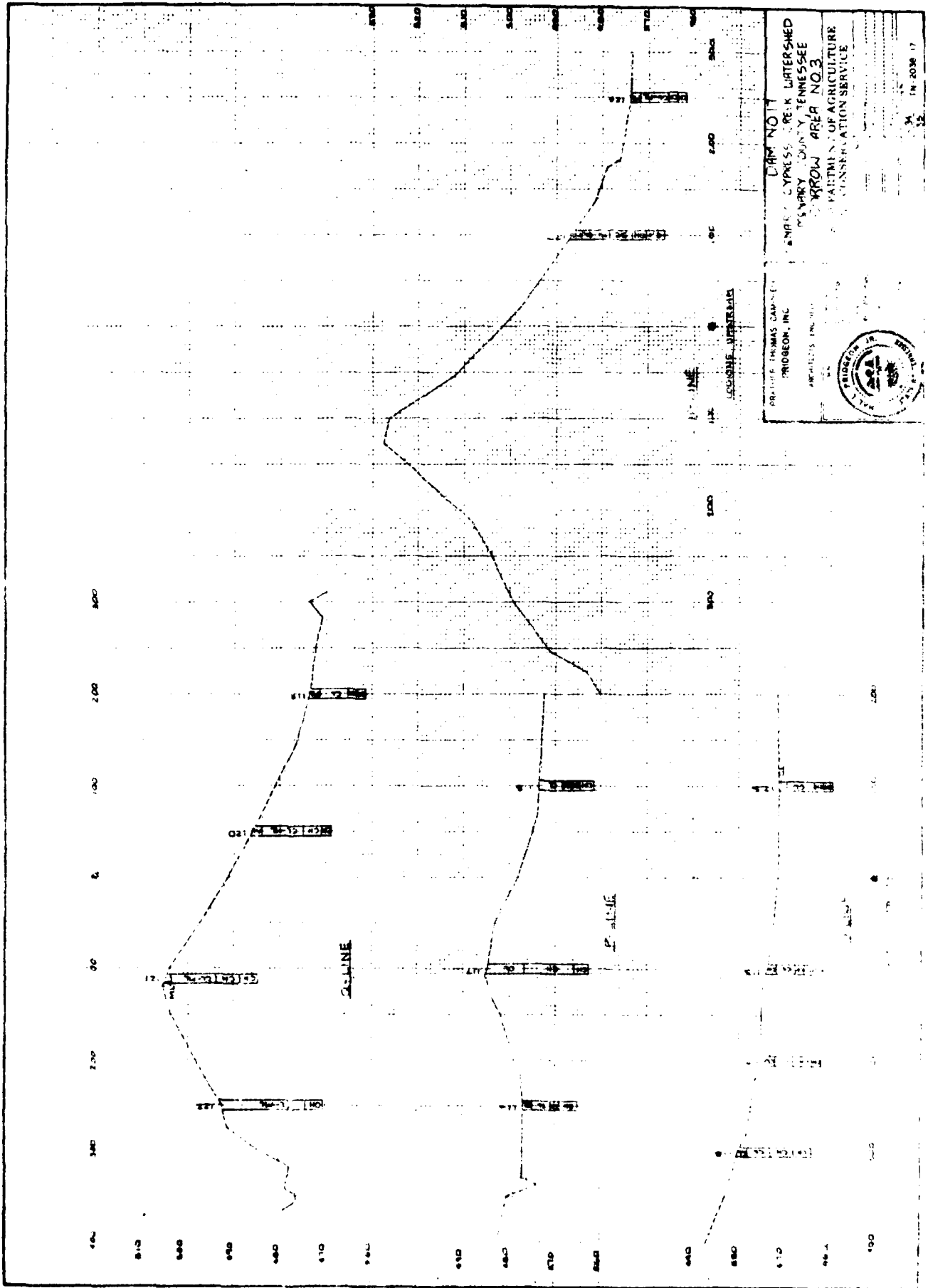
DAM NO. 1
 CYNES CREEK WATERSHED
 HENRY COUNTY, TENNESSEE
 BORROW AREA NO. 1
 DEPARTMENT OF AGRICULTURE
 CONSERVATION SERVICE

LESTER THOMAS CAMPBELL
 PRINCIPAL
 ARCHITECTS



10-20-57





DAM NO. 11
 DAM NO. 12
 LOUSIANA STATE
 P. 11-11
 P. 11-12
 P. 11-13
 P. 11-14
 P. 11-15
 P. 11-16
 P. 11-17
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DETAILS OF FACE FASTENING

APPENDIX F
HYDRAULIC AND HYDROLOGIC DATA

Hydraulics and Hydrology

McNairy Cypress Creek Dam #17 is located in McNairy County, Tennessee. The watershed land use is about 80% woods and 20% pasture. Shubuta (HSG C), Cuthbert (HSG C), and Dulac (HSG C) are the predominant soil types. The runoff curve number (RCN) was calculated to be 71 AMC II.

The McNairy Cypress Creek Dam #17 is classified to be a small size, high hazard potential dam. As such, it is required to pass the one-half to the full probable maximum flood (PMF) without overtopping. The PMF is derived from the probable maximum precipitation (PMP). Using the U. S. Weather Service TP-40, the 6-hour PMP was estimated to be 29.75 inches yielding 25.35 inches of runoff (RCN 71, AMC II).

The total inflow into the reservoir during the PMF (AMC II) is about 1311 acre-feet with a peak rate of 6008 cfs. The reservoir has a maximum storage above normal pool of 441 acre-feet. The PMF (AMC II) was used as the freeboard design storm. The PMF (AMC II) routings were started with a pool elevation of 478.5' msl (1' above normal pool elevation). This elevation was obtained after a ten day drawdown with a starting elevation of 487.1' msl (crest of the emergency spillway).

The design configuration of the emergency spillway based on the PMF AMC II routing calls for a base width of 93' with maximum head of 7.9'. The measured dimensions of the spillway are an 82' base with maximum head of 8.8'. Also, the crest of the emergency spillway is 0.4' higher than called for on the design plans (487.5' vs. 487.1' msl). Review of the design calculations indicates that the decrease in the base width would require approximately 0.5' of additional freeboard. The field measurements indicate that the required additional head is available and it is therefore assumed that the PMF AMC II will pass without overtopping the dam.

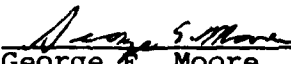
The full and $\frac{1}{2}$ PMF were routed under AMC III conditions with an initial pool elevation of 477.5' msl (winter NPE). The PMF runoff under AMC III conditions is 27.9 inches giving a total inflow of 1444 acre-feet with a peak rate of 8825 cfs. The full PMF overtopped the dam for 0.66 hours with a maximum depth of 0.4'. The $\frac{1}{2}$ PMF passed with 3.7' of freeboard. The routings were based on the measured configuration.

The 10-day, 100-year flood produces 359.7 acre-feet of inflow. Routing of this storm requires 194 acre-feet of storage. This routing was used to set the crest of the emergency spillway at 487.1' msl.

The 6-hour, 100-year flood containing 5.4 inches of precipitation was routed through the reservoir using a RCN of 86 (AMC III). This produced a runoff of 2.8 inches and a peak inflow of 1262 cfs. This storm produced a peak discharge of 94 cfs. The lake level did not reach the emergency spillway crest during the storm.

AMC II hydrographs and routings and spillway routings are from calculations performed by SCS design engineers using the DAMS 2 program. AMC III hydrographs were developed using the methods in Section 4, Chapter 21, of the SCS National Engineering Handbook. The routing equation used was:

$$I_1 + I_2 + \left(\frac{2S}{\Delta t} - O_1\right) = \left(\frac{2S}{\Delta t} + O_2\right)$$


George E. Moore
Regional Engineer

	AMC II	AMC III
6 hr PMP	Passes at top of dam	Overtops with a max. depth of 0.4' with a duration of .66 hrs.
6 hr. $\frac{1}{2}$ PMP	Not routed	Passes with 3.7' of freeboard
ES design storm*	Passes with 2.5' of flow in emergency spillway and 5.4' of freeboard	Not routed
6 hr. P ₁₀₀	Not routed	Passes below crest of emergency spillway
1-10 day P ₁₀₀	Passes at crest of emergency spillway	Not routed

*Emergency spillway design storm P=11.7 inches in 6 hours
 AMC II routings are based on the emergency spillway design configuration of a 93' base and 7.9' maximum head.
 AMC III routings are based on the measured emergency spillway dimensions of an 82' base and maximum head of 8.8'.

McNARY CYPRESS CR #17

Pipe ROUTING

11 JUNE 81

2241

D.A = 621 AC

E = 6800 ft

I = 17%

RELEVANT SOIL GROUPS: SHIBOTA (H5R 1), SHIBOTA (H5R 1), SHIBOTA (H5R 1)

MINOR LAND USE: WOODS

RGN = 71 AMC II

= 86 AMC III

R.D. = 5.9 INCHES

R = 2.84 INCHES

T₂ = 1.41h AMC II

T₃ = .89h AMC III

T₀ = 60 hr

HYDROGRAPH FAMILY # 2

I₀ = 5.2h

T₀/I₀ = 8.4

RET₀ = 10

RET₀ = 10

Q_P = 903 cfs/in

Q_{PA} = 3467 cfs

TIME	INFLOW	25% ₀ - 0	25% ₀ + 0	OUTFLOW
0	0	0	0	0
.33	7	7	7	0
.66	31	43	45	1
.98	94	164	168	2
1.31	218	466	476	5
1.64	818	1482	1502	10
1.97	1262	3532	3562	15
2.29	1064	5820	5858	19
2.62	784	7610	7668	29
2.95	596	8870	8990	60
3.28	412	97380	9938	91
3.60	392	10436	10620	92
3.93	336	10980	11164	92
4.26	295	11427	11611	92
4.59	270	11806	11992	93
4.91	257	12147	12333	93
5.24	239	12457	12643	93
5.57	194	12692	12880	94
5.90	87	12775	12963	94
6.22	31	12105	12893	94
6.55	14		12750	93
6.88	7			
7.21	3			
7.53	0			

PEAK PASSES

NO FLOW IN ES.

746 cfs x 73 hr = 54458 ac-ft

621 AC x 3.84 in = 199 ac-ft

OK

McNAIKY CYPRESS #17

1/2 PMF (AMC III) HYDROGRAPH AND ROUTING

RCN 86

PMP = 29.75 IN

Q = 27.9 IN

$T_c = .89$ hr

$T_b = .62$ hr

HYDROGRAPH FAMILY # 1

$T_D = 5.85$ hr

$T_D/T_c = 9.4$

REV $T_D = 10$

REV $T_D = .59$ hr

$g_p = 80.1$ ft/in

$Q_{91} = 21.23$ cfs

$Q_{86} = 11.93$ cfs X PMF

TIME (hr)	INFLOW (cfs)	$\frac{2S}{\Delta t} - O$	$\frac{2S}{\Delta t} + O$	OUTFLOW (cfs)
0	0	0	0	0
.33	22	20	22	1
.66	146	184	188	2
.98	302	620	632	6
1.31	524	1428	1448	10
1.64	795	2723	2749	13
1.97	1288	4772	4806	17
2.29	3113	9039	9173	67
2.62	4412	16214	16564	175
2.95	3606	21232	23232	1000
3.28	2632	23650	27470	1910
3.60	1949	24011	28231	2110
3.93	1523	23653	27483	1915
4.26	1232		26408	1660
4.59	103			
4.91	885			
5.24	818			
5.57	762			
5.90	728			
6.22	594			
6.55	302			
6.88	124			
7.21	57			
7.53	34			
7.86	22			
8.19	11			
8.52	0			

1. PMF PASSES EL. 472.10

26950 + 32 = 729 Act 13.95 IN X 621 AL = 722 Act 04

AD-A108 251

TENNESSEE STATE DEPT OF CONSERVATION NASHVILLE DIV 0--ETC F/G 13/13
NATIONAL PROGRAM OF INSPECTION OF NON-FEDERAL DAMS, TENNESSEE. --ETC(11)
SEP 81 B E MOORE DACW62-81-C-0056

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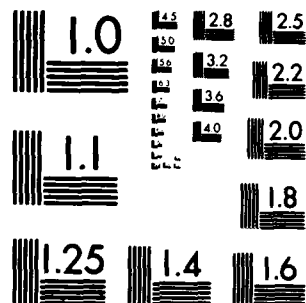
END

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

McNAIRY CYPRESS CK. #17

PMF ROUTING

24m

TIME (HR) INFLOW (cfs) $\frac{25}{At} - 0$ $\frac{25}{At} + 0$ OUTFLOW

0	0	0	0	0
.33	45	43	45	1
.66	291	371	379	4
.98	605	1249	1267	9
1.31	1053	2879	2907	14
1.64	1590	5484	5522	19
1.97	2576	9468	9650	91
2.29	6227	17671	18271	300
2.62	8825	26223	32723	3250
2.95	7212	29360	42260	6450
3.28	5263	29335	41835	6250
3.60	3897		38495	4950
3.93	3046			
4.26	2464			
4.59	2061			
4.91	1769			
5.24	1635			
5.57	1523			
5.90	1456			
6.22	1187			
6.55	605			
6.88	269			
7.21	134			
7.53	67			
7.86	45			
8.19	22			
8.52				

OVER TOPS EL 296.3 FT MSL
BELOW TOP OF DAM.

$\frac{0}{53867} \times \frac{(cfs)}{(hr)} = 1450 \text{ acft}$ $27.9 \text{ IN} \times 621 \text{ AC} = 1444 \text{ acft}$ 04

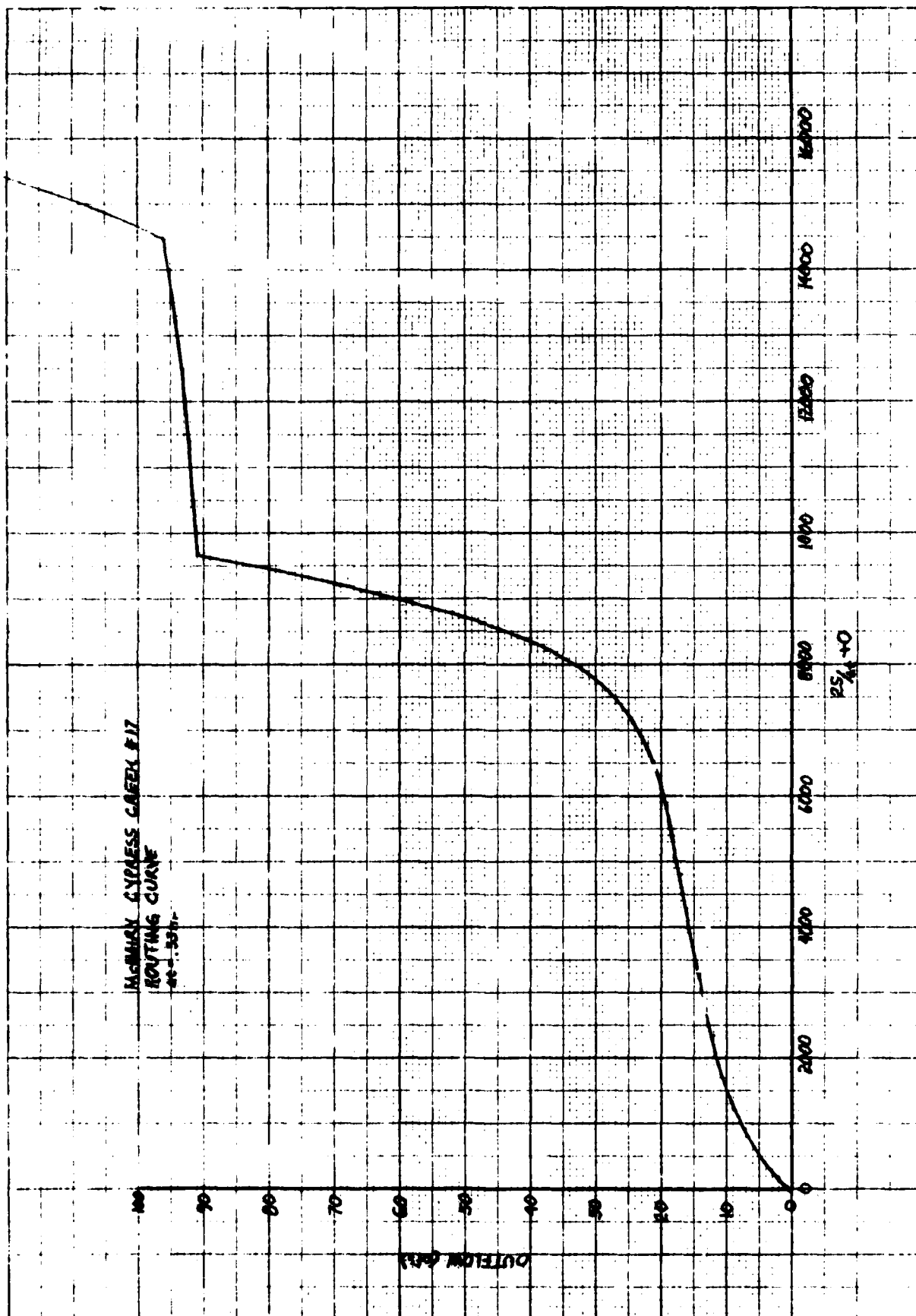
McNABRY CYPRESS CR #17

ROUTING CURVE

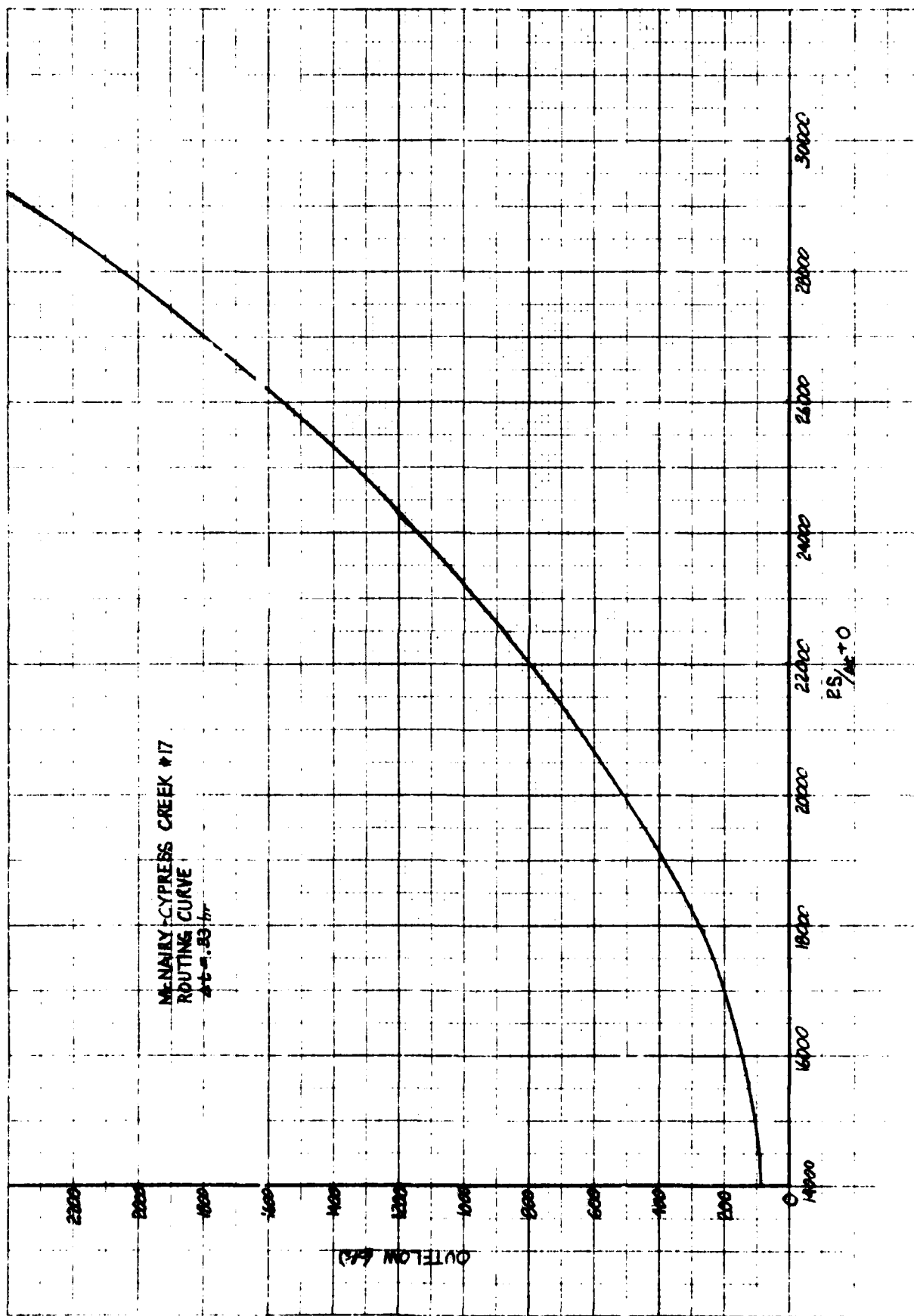
11 JUNE 91

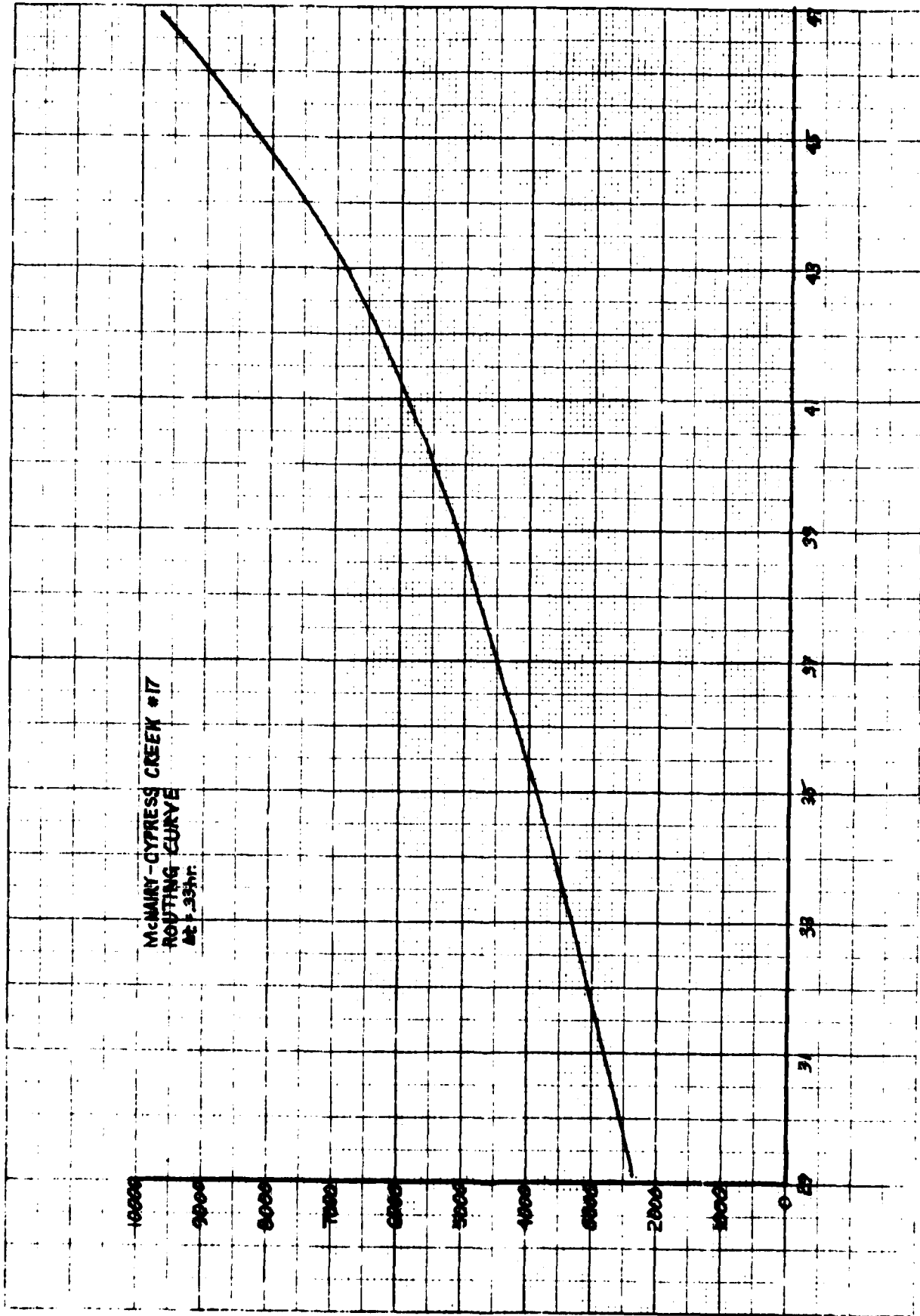
95M

ELEVATION (FE MLL)	STORAGE (AC FT)	STORAGE (D&P)	S/AE (.327641 cfs)	OUTFLOW (cfs)	2S/AE + O (cfs)
477.5	0	0	0	0	0
478.0	1.5	.76	55.4	2	113
479.0	16.2	8.17	598.3	9	1206
480.0	31.4	15.83	1160	12	2332
482.0	68.1	34.33	2515	18	5049
484.0	111.6	56.26	4122	38	8282
484.5	123.6	62.31	4565	69	9199
484.76	129.7	65.39	4790	91	9672
486.0	162.1	81.72	5987	93	12067
487.1	194.3	97.96	7176	96	14449
487.6	209.8	105.77	7719	122	15560
488.6	239.9	120.95	8861	269	17991
490.0	284.1	143.2	10493	758	21744
492.5	362.1	182.6	13374	2383	29131
495.0	440.7	222.2	16277	4550	37109
496.0	471.7	237.5	17400	5650	40450
497.0	502.7	253.4	18565	9115	46846



46 1240



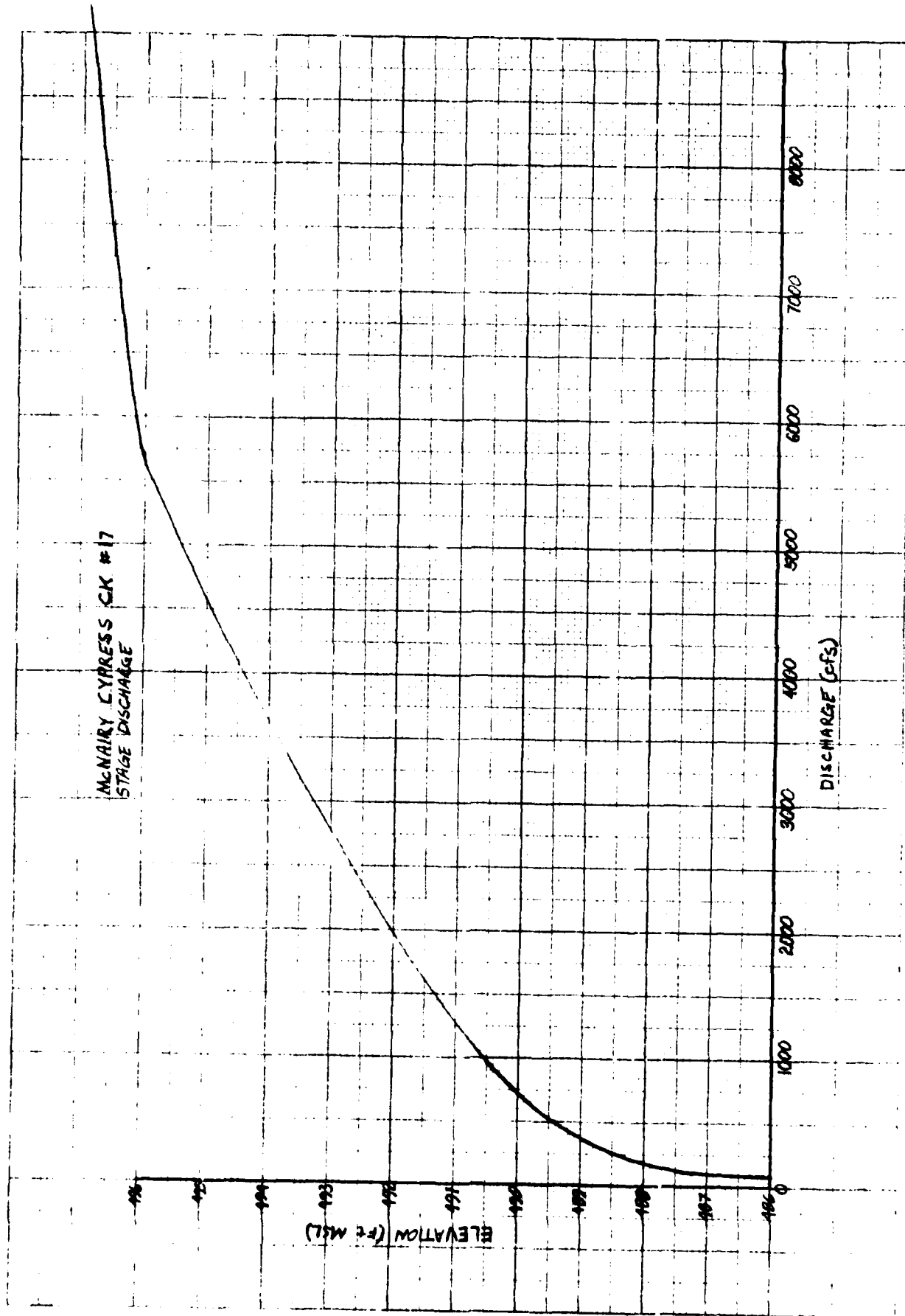


461240

MCNAIRY CYPRESS CK #17
STAGE DISCHARGE

ELEVATION (ft MSL)

DISCHARGE (cfs)



PRINCIPAL SPILLWAY HYDROGRAPH ROUTING
INPUT DATA SHEET NO. 1

REVISED 12-68
E & WP UNIT
FORT WORTH, TEXAS

CONTROL WORDS		SITE Dam No. 17.										STRUCTURE CLASS C.		CARD NUMBER	
TITLE1		W/S McNairy-Cypress CK.										STATE Tennessee.		DATE 11-22-76.	CARD NUMBER
TITLE2															CARD NUMBER
CURVE NUMBER		Tc OR W/S LENGTH IN FT.		W/S ELEV. DIFF. S(-) 1/		AREAL 1-DAY		RAINFALL 10-DAY		DRAINAGE AREA SQ. MI.		CARD NUMBER			
71.		1.41				7.60		13.80		0.97		3.			
BASE FLOW 2/		INVERT ELEV		LOW STAGE		CONDUIT LENGTH (FT.)		MANNINGS "N"		SUM COEF. EXCEPT KP		CARD NUMBER			
CHANNEL LOSS(-)		TAILWATER (-)		CREST ELEV.		192.		0.012		2.0.		4.			
5.43		465.0		477.5											
ROUTING CODE 3/		PLOTING CODE 4/		VELOCITY FT./SEC.		LENGTH IN FEET		COEF. "C"		STREAM CODE 5/		CARD NUMBER			
0.		0.								0.		5.			
WIDTH FT. 6/		HEIGHT FT.		WIDTH FT.		HEIGHT FT.		WIDTH FT.		HEIGHT FT.		CARD NUMBER			
1.83		1.0										6.			
CREST ELEVATION		WIDTH FT.		HEIGHT FT.		CREST ELEVATION		WIDTH FT.		HEIGHT FT.		CARD NUMBER			
483.5		15.		1.25								7.			
CREST ELEVATION		WIDTH FT.		HEIGHT FT.		CREST ELEVATION		WIDTH FT.		HEIGHT FT.		CARD NUMBER			
CONDUIT DIA-WIDTH		CONDUIT DIA-WIDTH		CONDUIT DIA-WIDTH		CONDUIT DIA-WIDTH		CONDUIT DIA-WIDTH		CONDUIT DIA-WIDTH		CONDUIT DIA-WIDTH			
30.												2.			

FOOTNOTES ON BACK

WATERSHED Dam No. 12, McNairy Cyn. DATE 11-22-76

CONTROL WORDS		ELEVATION FEET	STORAGE ACRE FEET	DISCHARGE CFS	DISCHARGE CFS	DISCHARGE CFS	CARD NUMBER
STAGE-CFS		477.5	65.9				9.
STAGE-CFS		477.9	66.0				10.
STAGE-CFS		478.5	74.5				11.
STAGE-CFS		480.0	97.3				12.
STAGE-CFS		482.0	134.0				13.
STAGE-CFS		483.5	166.0				14.
STAGE-CFS		484.0	177.5				15.
STAGE-CFS		484.5	189.5				16.
STAGE-CFS		485.0	201.0				17.
STAGE-CFS		485.5	215.0				18.
STAGE-CFS		486.0	228.0				19.
STAGE-CFS		487.0	257.0				20.
STAGE-CFS		488.0	286.5				21.
STAGE-CFS		489.0	318.5				22.
STAGE-CFS		490.0	350.0				23.
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TIITLE1	SITE DAM NO. 17	STRUCTURE CLASS C	
TIITLE2	PC NAIRY-CYPRESS CK. W/S	TENNESSEE 11-30-76	
MYCRC	71.	1.41	.97
PS INFO	5.43	465.	13.80
LCA WEIR	1.83	1.	.012
HIGH WEIR	483.5	15.	2.
CONCUIT	30.	1.25	
STAGE-CFS	477.5	65.9	
STAGE-CFS	477.9	66.	
STAGE-CFS	478.5	74.5	
STAGE-CFS	480.	97.3	
STAGE-CFS	482.	134.	
STAGE-CFS	483.5	166.	
STAGE-CFS	484.	177.5	
STAGE-CFS	484.5	189.5	
STAGE-CFS	485.	201.	
STAGE-CFS	485.5	215.	
STAGE-CFS	486.	228.	
STAGE-CFS	487.	257.	
STAGE-CFS	488.	286.5	
STAGE-CFS	489.	318.5	
STAGE-CFS	490.	350.	
ENC TABLE			

SITE DAM NO. 17		STRUCTURE CLASS C		TENNESSEE 11-30-76	
MC NAIRY-CYPRESS CK. W/S		ELEVATION		STORAGE	
				DISCHARGE	
477.50	477.50	65.90	0.00		
478.00	478.00	67.41	2.00		
479.00	479.00	68.09	8.80		
479.99	479.99	97.29	12.45		
480.99	480.99	115.64	15.25		
481.99	481.99	133.99	17.61		
483.50	483.50	166.00	20.65		
484.00	484.00	177.49	38.01		
484.50	484.50	189.50	68.95		
484.74	484.74	195.24	88.28		
484.76	484.76	195.59	90.41		
485.00	485.00	201.00	91.02		
485.49	485.49	214.92	92.22		
485.99	485.99	227.86	93.40		
486.49	486.49	242.27	94.57		
486.98	486.98	256.70	95.72		
487.48	487.48	271.37	96.87		
487.98	487.98	286.04	97.99		
488.48	488.48	301.92	99.11		
488.97	488.97	317.84	100.21		
489.47	489.47	333.52	101.30		
489.97	489.97	349.19	102.38		
490.47	490.47	364.86	103.45		
490.96	490.96	380.53	104.51		
491.46	491.46	396.20	105.55		
491.96	491.96	411.86	106.59		
492.46	492.46	427.53	107.51		

TIME	INFLOW	AVE IN	OUTFLOW	ELEV.	STORAGE
6.00	9.28	9.27	2.82	478.11	69.17
12.00	9.45	9.44	4.16	478.31	72.07
18.00	9.64	9.63	5.27	478.48	74.46
24.00	9.86	9.84	6.19	478.61	76.45
30.00	10.09	10.07	6.97	478.72	78.13
36.00	10.36	10.34	7.63	478.82	79.57
42.00	10.66	10.63	8.23	478.91	80.85
48.00	11.01	10.98	8.76	478.99	82.00
54.00	11.41	11.37	9.05	479.06	83.14
60.00	11.88	11.83	9.34	479.14	84.35
66.00	12.44	12.39	9.66	479.23	85.66
72.00	13.12	13.06	10.01	479.33	87.12
78.00	13.97	13.89	10.40	479.43	88.77
84.00	15.07	14.97	10.87	479.56	90.69
90.00	16.54	16.40	11.42	479.71	92.98
96.00	18.62	18.42	12.10	479.90	95.84
102.00	21.86	21.53	12.81	480.12	99.63
108.00	27.71	27.06	13.66	480.43	105.21
114.00	42.21	40.31	15.12	480.95	114.79
120.00	737.31	427.48	24.68	483.61	168.66
124.00	78.24	99.12	95.93	487.07	259.33
MAXIMUM STORAGE OBTAINED. DRAW-DOWN BEGINS.					
1.00	5.26	5.26	20.05	483.20	159.67
2.00	5.26	5.26	17.48	481.94	132.94
3.00	5.26	5.26	14.63	480.77	111.58
4.00	5.26	5.26	12.04	479.88	95.56
5.00	5.26	5.26	9.47	479.18	84.87
6.00	5.26	5.26	7.23	478.76	78.71
7.00	5.26	5.26	6.05	478.59	76.15
8.00	5.26	5.26	5.58	478.52	75.13
9.00	5.26	5.26	5.39	478.49	74.72
10.00	5.26	5.26	5.31	478.48	74.56

MAXIMUM STORAGE IS 259.3 ACRE FEET (5.012 INCHES) AT ELEV. 487.07 (CREST, EMER. SPW.).

NET DETENTION STORAGE REQUIRED IS 193.5 ACRE FEET (3.741 INCHES).

CROSS STORAGE REMAINING AFTER DRAWDOWN 74.5 ACRE FEET (1.441 INCHES) AT ELEV. 478.48 (START EMER. SPW. AND FREEBOARD ROUTINGS).

NET REMAINING STORAGE IS 8.7 ACRE FEET (0.169 INCHES).

PRINCIPAL SPILLWAY ROUTING SUMMARY

PAGE NO. 6

SITE DAM NO. 17 STRUCTURE CLASS C
MC NAIRY-CYPRESS CK. W/S TENNESSEE 11-30-76

3C.	MAXIMUM		NET DETENTION		GROSS REMAINING		NET REMAINING	
	ELEV.	STORAGE	INCHES	STORAGE	ELEV.	STORAGE	INCHES	STORAGE
3C.	487.07	259.3	5.012	193.5	478.48	74.5	1.441	8.7
				3.741				0.16

PARAMETER

EMERGENCY SPILLWAY HYDROGRAPH DESIGN

CONTROL WORDS

TITLE 1

TITLE 2

HYDROL

SPILLWAY

GENERAL

SPW. SIZE

DAM NO. 17 - MENAIKY-CYPRESS CREEK WATE. T.L.

MENAIKY CREEK, TENNESSEE

EM.SPV. CREST ELEVATION

ROUTING CODE 5/

Q.

80.1

70.

CURVE NUMBER

TIME OF CONCENTRATION

CASE NUMBER

PLOTTING CODE 5/

Q.

L1

200.

RAINFALL DURATION 1/

FULL PRINT

VELOCITY FT/SEC

802

100.

AREA RAINFALL 2/

SIDE SLOPE

LENGTH Ft.

L2

200.

FREEBOARD

EM.SPV. SLOPE, 3

COEFF. "C" STREAM CODE 7/

803

L3

200.

DRAINAGE AREA Sq.Mi.

0.97

75.

CARD NUMBER

73.

74.

75.

76.

77.

78.

STAGE-CFS

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Page 5 of 6

CONTROL WORDS		Page 3 of 6									
TITLE 1	DAM NO. 17 - MCNAIRY-CYPRESS CREEK WATERSHED.										CARD NUMBER
TITLE 2	MCNAIRY COUNTY, TENNESSEE, STRUCTURE CLASS C, DATE 12-13-76.										99.
HYDRO	CURVE NUMBER	TIME OF CONCENTRATION	RAINFALL DURATION	AREA RAINFALL		DRAINAGE AREA Sq. MI.	CARD NUMBER				
				EM. SPW.	FREEBOARD						
	71.	1.41	6.		29.75	0.97	100.				
	EM. SPW. CREST ELEVATION	CASE NUMBER	FULL PRINT	SIDE SLOPE RATIO, Z		EM. SPW.	100.				
	447.1	31	41	3.							
SPILLWAY	ROUTING CODE 51	PLOTTING CODE 61	STREAM ROUTING INFORMATION SERIES SITES ONLY								101.
GENERAL	0.	0.	VELOCITY FT./SEC	LENGTH FT.	CORRS. "C"	STREAM CODE 71					
	Bo 1	L 1					102.				
			Bo 2	L 2	Bo 3	L 3					
SPW. SIZE	70.	200.	100.	200.	100.	200.	103.				

STAGE-CFS	ELEVATION	STORAGE AC. FT.	Q, cfs No. 1	Q, cfs No. 2	Q, cfs No. 3	
8/	477.5	65.9	0.	0.	0.	104.
STAGE-CFS	477.9	66.0	2.	2.	2.	105.
STAGE-CFS	479.	82.1	8.8	8.8	8.8	106.
STAGE-CFS	480.	92.3	12.5	12.5	12.5	107.
STAGE-CFS	482.	134.	17.6	17.6	17.6	108.
STAGE-CFS	483.5	166.	20.6	20.6	20.6	109.
STAGE-CFS	484.	177.5	38.	38.	38.	110.
STAGE-CFS	484.76	195.6	90.4	90.4	90.4	111.
STAGE-CFS	485.	201.	91.	91.	91.	112.
STAGE-CFS	486.	228.	93.5	93.5	93.5	113.
STAGE-CFS	487.1	260.2	96.3	96.3	96.3	114.
STAGE-CFS	487.6	274.7	97.1	97.1	97.1	115.
STAGE-CFS	488.1	289.8	98.3	98.3	98.3	116.
STAGE-CFS	488.6	305.8	99.4	99.4	99.4	117.
STAGE-CFS	489.1	321.9	100.5	100.5	100.5	118.
STAGE-CFS	490.	350.	102.4	102.4	102.4	119.
STAGE-CFS	491.	381.	105.	105.	105.	120.
STAGE-CFS	492.5	428.	108.	108.	108.	121.
STAGE-CFS						
STAGE-CFS						
STAGE-CFS						
STAGE-CFS						
END TABLE						
*PUNCH NOTE: Uniform 10 column fields. Punch decimals and control words						122.

554 523 7097 99.014 128 1974

5, L-29, 933.1(2)

TITLE1 CAP NO. 17-MCNAIRY-CYPRESS CREEK WATERSHED

TITLE2 MCNAIRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-70

HYDRC 71. 1.41 6. 11.72 .97

SPILLWAY 487.1 1. 2. 3. 2.5

SPA-SIZE 70. 400. 75. 400. 80. 400.

STAGE-CFS 477.50 74.50 0. C. 0.

STAGE-CFS 478.48 74.51 5.3 5.3 5.3

STAGE-CFS 479. 82.1 8.8 8.8 8.8

STAGE-CFS 480. 97.3 12.5 12.5 12.5

STAGE-CFS 482. 134. 17.6 17.6 17.6

STAGE-CFS 483.5 166. 20.6 20.6 20.6

STAGE-CFS 484. 177.5 38. 38. 38.

STAGE-CFS 484.76 195.6 90.4 90.4 90.4

STAGE-CFS 485. 201. 91. 91. 91.

STAGE-CFS 486. 228. 93.5 93.5 93.5

STAGE-CFS 487.1 240.2 96. 96. 96.

STAGE-CFS 487.6 274.9 97.1 97.1 97.1

STAGE-CFS 488.1 289.6 98.3 98.3 98.3

STAGE-CFS 488.6 305.8 99.4 99.4 99.4

STAGE-CFS 489.1 321.9 100.5 100.5 100.5

STAGE-CFS 490. 340. 102.4 102.4 102.4

STAGE-CFS 491. 361. 105. 105. 105.

STAGE-CFS 492.5 428. 108. 108. 108.

ENC TABLE

COMPUTED DISCHARGE FOR CASE 1.

ELEV= 477.50	STORAGE= 74.5	1ST DISCH= 0.0	2ND DISCH= 0.0	3RD DISCH= 0.0
ELEV= 478.47	STORAGE= 74.5	1ST DISCH= 5.3	2ND DISCH= 5.3	3RD DISCH= 5.3
ELEV= 479.00	STORAGE= 82.1	1ST DISCH= 8.8	2ND DISCH= 8.8	3RD DISCH= 8.8
ELEV= 480.00	STORAGE= 97.3	1ST DISCH= 12.5	2ND DISCH= 12.5	3RD DISCH= 12.5
ELEV= 482.00	STORAGE= 134.0	1ST DISCH= 17.6	2ND DISCH= 17.6	3RD DISCH= 17.6
ELEV= 483.50	STORAGE= 166.0	1ST DISCH= 20.6	2ND DISCH= 20.6	3RD DISCH= 20.6
ELEV= 484.00	STORAGE= 177.5	1ST DISCH= 38.0	2ND DISCH= 38.0	3RD DISCH= 38.0
ELEV= 484.76	STORAGE= 195.6	1ST DISCH= 90.4	2ND DISCH= 90.4	3RD DISCH= 90.4
ELEV= 485.00	STORAGE= 201.0	1ST DISCH= 91.0	2ND DISCH= 91.0	3RD DISCH= 91.0
ELEV= 486.00	STORAGE= 228.0	1ST DISCH= 93.5	2ND DISCH= 93.5	3RD DISCH= 93.5
ELEV= 487.10	STORAGE= 260.2	1ST DISCH= 96.0	2ND DISCH= 96.0	3RD DISCH= 96.0
ELEV= 487.60	STORAGE= 274.9	1ST DISCH= 119.8	2ND DISCH= 119.8	3RD DISCH= 119.8
ELEV= 488.10	STORAGE= 289.8	1ST DISCH= 145.0	2ND DISCH= 145.0	3RD DISCH= 145.0
ELEV= 488.60	STORAGE= 305.8	1ST DISCH= 255.3	2ND DISCH= 255.3	3RD DISCH= 255.3
ELEV= 489.10	STORAGE= 321.9	1ST DISCH= 384.8	2ND DISCH= 384.8	3RD DISCH= 384.8
ELEV= 490.00	STORAGE= 350.0	1ST DISCH= 668.3	2ND DISCH= 668.3	3RD DISCH= 668.3
ELEV= 491.00	STORAGE= 381.0	1ST DISCH= 1195.0	2ND DISCH= 1195.0	3RD DISCH= 1195.0
ELEV= 492.50	STORAGE= 428.0	1ST DISCH= 2088.6	2ND DISCH= 2088.6	3RD DISCH= 2088.6

CAN NO. 17-MCNAIRY-CYPRESS CREEK WATERSHED
MCNAIRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

PAGE NO. 68

EMER. SPW. UNCONTROLLED AREA HYDROGRAPH.

RUNOFF = 7.93 IN. VOL. = 410. AC.FT.

TIME	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75
0.00	0.00	0.00	0.00	0.00	0.28	3.83	18.32	57.17
2.00	147.24	357.69	755.39	1279.78	1717.07	1895.45	1874.10	1615.74
4.00	1386.05	1194.86	1043.18	923.60	827.87	749.29	684.63	626.31
6.00	576.11	526.35	463.76	370.75	270.49	181.84	116.57	76.29
8.00	50.00	32.47	21.01	13.50	8.61	5.42	3.30	1.94
10.00	1.06	0.48	0.12	0.00				

UAM NO. 17-MCNAIRY-CYPRLLS CREEK WATERSHED
MCNAIRY COUNTY, TENNESSEE
STRUCTURE CLASS C 01-23-78

EMEQ.SPW. ROUTING BOTTOM WIDTH= 70.0 ENTRANCE LENGTH= 400.0

TIME	INFLW	AVE INFLW	OUTFLOW	STORAGE	ELEVATION	V/C (ES Q ONLY)	V/C
0.25	0.00	0.00	0.00	74.50	477.50		
0.50	0.00	0.00	0.00	74.50	477.50		
0.75	0.00	0.00	0.00	74.50	477.50		
1.00	0.28	0.14	0.24	74.50	477.51		
1.25	3.83	2.06	3.32	74.51	474.11		
1.50	18.32	11.07	5.36	74.65	478.49		
1.75	57.17	37.74	5.67	75.31	478.53		
2.00	147.24	102.20	6.58	77.30	478.67		
2.25	357.69	252.47	8.86	82.35	479.02		
2.50	755.39	556.54	11.61	93.64	479.76		
2.75	1279.78	1017.59	14.48	114.39	480.93		
3.00	1717.07	1498.42	18.63	145.00	482.52		
3.25	1895.45	1806.26	49.92	181.62	484.17		
3.50	1824.10	1859.78	92.63	218.57	485.65		
3.75	1615.74	1719.92	95.38	252.16	486.83		
4.00	1386.05	1500.89	135.13	280.79	487.80	NON CRITICAL FLOW	
4.25	1194.66	1290.45	233.97	303.53	488.53	NON CRITICAL FLOW	
4.50	1043.12	1119.02	357.47	320.65	489.06	NON CRITICAL FLOW	
4.75	923.67	983.63	478.81	332.33	489.43	NON CRITICAL FLOW	
5.00	827.87	875.78	546.03	339.71	489.67	NON CRITICAL FLOW	
5.25	749.29	788.58	604.04	344.00	489.81	NON CRITICAL FLOW	
5.50	684.63	716.96	626.57	346.10	489.88	NON CRITICAL FLOW	
5.75	626.31	655.47	632.34	346.64	489.89	NON CRITICAL FLOW	
6.00	576.11	601.21	626.13	346.06	489.87	NON CRITICAL FLOW	
10.00	1.06	1.50	140.04	282.52	487.86	NON CRITICAL FLOW	

VOLUME CHECK AT HP= 0.01. COMPUTED HP= 2.78 AT ELEV. 489.89 (STORAGE IS 346.6 AC.FT.= 6.70 IN.)
TIME= 5.75 HOURS CRITICAL VELOCITY= 6.14 CRITICAL DEPTH= 1.17 CRITICAL SLOPE= 2.20.

PEAK INFLOW	1,075 CFS
TOTAL VOL. THRU FMR SPILLWAY	147 AC-FT.
ASCENDING VOL. THRU EMER SPILLWAY	58 AC-FT.
PEAK CUFLEW	64 CFS

EXIT CHANNEL VELOCITY = 6.37
= 2.110 AC-FT PER FT. WIDTH

DURATION OF FLOW= 8.25

EMER-SPW. ROUTING BOTTOM WIDTH= 75.0 ENTRANCE LENGTH= 400.0

TIME	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (ES Q ONLY)	V/E
0.25	0.00	0.00	0.00	74.50	477.50		
0.50	0.00	0.00	0.00	74.50	477.50		
0.75	0.00	0.00	0.00	74.50	477.50		
1.00	0.26	0.14	0.00	74.50	477.55		
1.25	3.83	2.06	3.32	74.51	478.11		
1.50	18.42	11.07	5.36	74.65	478.49		
1.75	57.17	37.74	5.67	75.31	478.53		
2.00	147.24	102.20	6.58	77.30	478.67		
2.25	357.69	252.47	8.66	82.35	479.02		
2.50	755.39	556.54	11.61	93.64	479.76		
2.75	1279.78	1017.59	14.88	114.39	480.93		
3.00	1717.07	1498.42	18.63	145.00	482.52		
3.25	1895.45	1806.26	49.92	181.67	484.17		
3.50	1824.10	1859.78	92.63	218.57	485.65		
3.75	1615.74	1719.42	95.18	252.16	486.83		
4.00	1386.05	1500.89	137.67	280.77	487.80		
4.25	1194.86	1290.45	242.42	303.50	488.53		
4.50	1043.18	1119.02	371.83	320.78	489.05		
4.75	923.69	983.43	495.98	331.41	489.41	NON CRITICAL FLOW	5.46
5.00	827.87	875.78	576.12	338.61	489.74	NON CRITICAL FLOW	5.79
5.25	749.29	788.58	620.95	342.53	489.76	NON CRITICAL FLOW	5.97
5.50	684.63	716.96	641.21	344.33	489.82	NON CRITICAL FLOW	6.04
5.75	626.31	655.47	644.22	344.61	489.83	NON CRITICAL FLOW	6.05
6.00	576.11	601.21	635.15	343.82	489.80	NON CRITICAL FLOW	6.02
10.00	1.06	1.50	137.97	280.87	487.80	NON CRITICAL FLOW	6.22

VOLUME CHECK AT MP= 0.05. COMPUTED MP= 2.72 AT ELEV. 489.83 (STORAGE IS 344.6 AC-FT.= 6.66 IN.)
TIME= 5.75 HOURS CRITICAL VELOCITY= 6.05 CRITICAL DEPTH= 1.14 CRITICAL SLOPE= 2.22.

PEAK INFLOW = 1895. CFS
TOTAL VOL. THRU EMER SPILLWAY = 149. AC-FT.
ASCENDING VOL. THRU EMER SPILLWAY = 60. AC-FT.
PEAK OUTFLOW = 644. CFS
EXIT CHANNEL VELOCITY = 1.988 AC-FT PER FT. WIDTH
DURATION OF FLOW= 8.00

EMER.SPH. ROUTING BOTTOM WIDTH= 80.0 ENTRANCE LENGTH= 400.0

TIME	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (ES Q ONLY)	V/E
0.25	0.00	0.00	0.00	74.50	477.50		
0.50	0.00	0.00	0.00	74.50	477.50		
0.75	0.00	0.00	0.00	74.50	477.50		
1.00	0.28	0.14	0.24	74.50	477.55		
1.25	3.83	2.06	3.32	74.51	478.11		
1.50	18.32	11.07	5.36	74.65	478.49		
1.75	57.17	37.74	5.67	75.31	478.53		
2.00	147.24	102.20	6.50	77.30	478.67		
2.25	252.69	252.47	8.86	82.35	479.02		
2.50	755.39	556.54	11.61	93.64	479.76		
2.75	1279.78	1017.59	14.88	114.39	480.93		
3.00	1717.07	1498.42	18.63	145.03	482.52		
3.25	1875.45	1806.26	49.92	181.62	484.17		
3.50	1824.10	1859.78	32.63	218.57	485.65		
3.75	1615.74	1719.92	95.38	252.14	486.83		
4.00	1386.05	1500.89	140.20	280.74	487.80		
4.25	1194.86	1290.45	250.77	303.36	488.52		
4.50	1043.18	1119.02	385.87	319.91	489.04		
4.75	923.69	983.43	512.39	330.95	489.39		
5.00	827.87	875.78	593.18	337.62	489.60		
5.25	749.29	788.58	616.62	341.21	489.72		
5.50	624.63	716.96	654.48	342.68	489.77		
5.75	626.31	655.47	654.70	342.70	489.77		
6.00	576.11	601.21	642.81	341.72	489.73		
10.00	1.06	1.50	135.57	279.30	487.75		

VOLUME CHECK AT HP = 0.09. COMPUTED HP = 2.66 AT ELEV. 489.77 (STORAGE IS 342.6 AC.-FT. = 6.62 IN.)
TIME = 5.50 HOURS CRITICAL DEPTH = 5.97 CRITICAL VELOCITY = 1.10 CRITICAL SLOPE = 2.25.

	1895. CFS
PEAK INFLOW	=
TOTAL VOL. THRU EMER SPILLWAY	= 150. AC-FT.
ASCENDING VOL. THRU EMER SPILLWAY	= 51. AC-FT.
PEAK OUTFLOW	= 654. CFS
CE/3	= 1,880 AC-FT

DURATION OF FLOW= 8.00

EXIT CHANNEL VELOCITY = 6.16

TITLE1 DAM NO. 17-MCNAIRY-CYPRESS CREEK WATERSHED

TITLE2 MCNAIRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

HYDUC 71. 1.41 6. 11.72 .97

SPILLWAY 487.1 1. 2. 3. 2.5

SPH-SIZE 85. 400. 90. 400. 95. 400.

STAGE-CFS 477.50 74.50 0. 0. 0. 0.

STAGE-CFS 478.48 74.51 5.3 5.3 5.3

STAGE-CFS 479. 82.1 8.8 8.8 8.8

STAGE-CFS 480. 97.3 12.5 12.5 12.5

STAGE-CFS 482. 134. 17.6 17.6 17.6

STAGE-CFS 483.5 166. 20.6 20.6 20.6

STAGE-CFS 484. 177.5 38. 38. 38.

STAGE-CFS 484.76 195.6 90.4 90.4 90.4

STAGE-CFS 485. 201. 91. 91. 91.

STAGE-CFS 486. 224. 93.5 93.5 93.5

STAGE-CFS 487.1 260.2 96. 96. 96.

STAGE-CFS 487.6 274.9 97.1 97.1 97.1

STAGE-CFS 488.1 287.8 98.3 98.3 98.3

STAGE-CFS 488.6 305.8 99.4 99.4 99.4

STAGE-CFS 489.1 321.9 100.5 100.5 100.5

STAGE-CFS 490. 350. 102.4 102.4 102.4

STAGE-CFS 491. 381. 105. 105. 105.

STAGE-CFS 492.5 428. 108. 108. 108.

ENC TABLE

DAM NO. 17-MCHAIKY-CYPRESS CREEK WATERSHED
MCHAIKY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

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COMPUTED DISCHARGE FOR CASE 1.

ELEV= 477.50	STORAGE= 74.5	1ST DISCH= 0.0	2ND DISCH= 0.0	3RD DISCH= 0.0
ELEV= 478.47	STORAGE= 74.5	1ST DISCH= 5.3	2ND DISCH= 5.3	3RD DISCH= 5.3
ELEV= 479.00	STORAGE= 82.1	1ST DISCH= 8.8	2ND DISCH= 8.8	3RD DISCH= 8.8
ELEV= 480.00	STORAGE= 97.3	1ST DISCH= 12.5	2ND DISCH= 12.5	3RD DISCH= 12.5
ELEV= 482.00	STORAGE= 134.0	1ST DISCH= 17.6	2ND DISCH= 17.6	3RD DISCH= 17.6
ELEV= 483.50	STORAGE= 166.0	1ST DISCH= 20.6	2ND DISCH= 20.6	3RD DISCH= 20.6
ELEV= 484.00	STORAGE= 177.5	1ST DISCH= 38.0	2ND DISCH= 38.0	3RD DISCH= 38.0
ELEV= 484.76	STORAGE= 195.6	1ST DISCH= 90.4	2ND DISCH= 90.4	3RD DISCH= 90.4
ELEV= 485.00	STORAGE= 201.0	1ST DISCH= 91.0	2ND DISCH= 91.0	3RD DISCH= 91.0
ELEV= 486.00	STORAGE= 228.0	1ST DISCH= 93.5	2ND DISCH= 93.5	3RD DISCH= 93.5
ELEV= 487.10	STORAGE= 260.2	1ST DISCH= 96.0	2ND DISCH= 96.0	3RD DISCH= 96.0
ELEV= 487.60	STORAGE= 274.9	1ST DISCH= 122.8	2ND DISCH= 124.3	3RD DISCH= 125.8
ELEV= 488.10	STORAGE= 289.8	1ST DISCH= 173.6	2ND DISCH= 178.0	3RD DISCH= 182.3
ELEV= 488.60	STORAGE= 305.8	1ST DISCH= 275.4	2ND DISCH= 285.4	3RD DISCH= 295.4
ELEV= 489.10	STORAGE= 321.9	1ST DISCH= 420.8	2ND DISCH= 438.8	3RD DISCH= 456.8
ELEV= 490.00	STORAGE= 350.0	1ST DISCH= 780.3	2ND DISCH= 817.7	3RD DISCH= 855.0
ELEV= 491.00	STORAGE= 381.0	1ST DISCH= 1333.6	2ND DISCH= 1399.8	3RD DISCH= 1466.0
ELEV= 492.50	STORAGE= 428.0	1ST DISCH= 2456.3	2ND DISCH= 2578.9	3RD DISCH= 2701.4

DAM NO. 17-MCHAINY-CYPRESS CREEK WATERSHED
MCHAINY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

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EMER. SPN. UNCONTROLLED AREA HYDROGRAPH.

RUNOFF = 7.93 IN. VOL. = 410. AC.FT.

TIME +	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75
0.00 +	0.00	0.00	0.00	0.00	0.28	3.83	18.12	57.17
2.00 +	147.24	357.69	755.39	1279.78	1717.07	1895.44	1824.10	1615.74
4.00 +	1386.05	1194.86	1043.14	923.69	827.87	749.29	684.63	626.31
6.00 +	576.11	528.35	463.76	370.75	270.49	181.44	116.57	76.29
8.00 +	50.00	32.47	21.01	13.50	8.61	5.42	3.30	1.94
10.00 +	1.06	0.48	0.12	0.00				

DAM NO. 17-MCNairy-CYPRESS CREEK WATERSHED
MCNairy COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

EMER.SPM. ROUTING BOTTOM WIDTH= 85.0 ENTRANCE LENGTH= 400.0

TIME	INFLOW	AVE. INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (LS 0 ONLY)	V/E
0.25	0.00	0.00	0.00	74.50	477.50		
0.50	0.00	0.00	0.00	74.50	477.50		
0.75	0.00	0.00	0.00	74.50	477.50		
1.00	0.28	0.14	0.24	74.50	477.55		
1.25	3.83	2.06	3.32	74.51	478.11		
1.50	18.32	11.07	5.36	74.65	478.49		
1.75	57.17	37.74	5.67	75.31	478.54		
2.00	147.24	102.20	6.12	77.30	478.77		
2.25	357.69	252.47	8.86	82.35	479.02		
2.50	755.39	556.54	11.61	93.64	479.76		
2.75	1279.78	1017.59	14.88	114.39	480.93		
3.00	1717.07	1498.42	18.63	145.00	482.52		
3.25	1895.45	1806.26	49.92	181.62	484.17		
3.50	1824.10	1859.78	92.63	218.57	485.65		
3.75	1615.74	1719.92	95.38	252.16	486.83		
4.00	1386.05	1500.89	142.72	280.71	487.79	NON CRITICAL FLOW	
4.25	1194.86	1290.45	259.03	303.22	488.52	NON CRITICAL FLOW	
4.50	1043.18	1119.02	390.59	319.54	489.03	NON CRITICAL FLOW	
4.75	923.69	983.43	528.07	330.28	489.57	5.38	5.44
5.00	827.87	875.78	609.25	336.62	489.57	5.70	5.82
5.25	749.29	780.58	631.11	339.90	489.68	5.64	6.01
5.50	686.63	716.96	666.45	341.10	489.71	5.90	6.07
5.75	626.31	655.47	663.92	340.90	489.71	5.89	6.06
6.00	1.94	2.63	142.82	280.74	487.80	NON CRITICAL FLOW	

WELVOLUME CHECK AT HP= 0.05. COMPUTED HP= 2.60 AT CLEV. 49.71 (STORAGE IS 341.1 AC.FT.= 6.59 IN.)
TIME= 5.50 HOURS CRITICAL VELOCITY= 5.90 CRITICAL DEPTH= 1.08 CRITICAL SLUVE= 2.26.

PEAK INFLCH	=	1095. LFS
TOTAL VOL. THRU FPLR SPILLWAY	=	151. AC-FT.
ASCENDING VOL. THRU CMER SPILLWAY	=	52. AC-FT.
PEAK GULFCH	=	666. LFS
CF/D	=	1.783 AC-FT P
EXIT CHANNEL VELOCITY	=	6.07

DISCAL: C. OF FLOW= 7.75

EMER.SPM. ROUTING									
		BOTTOM WIDTH= 90.0		ENTRANCE LENGTH= 400.0					
TIME	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (ES Q ONLY)	V/E		
0.25	0.00	0.00	0.00	74.50	477.50				
0.50	0.00	0.00	0.00	74.50	477.50				
0.75	0.00	0.00	0.00	74.50	477.50				
1.00	0.28	0.14	0.24	74.50	477.55				
1.25	3.63	2.06	3.32	74.51	478.11				
1.50	18.32	11.07	5.36	74.65	478.49				
1.75	57.17	37.74	5.67	75.31	478.53				
2.00	147.24	102.20	6.58	77.30	478.67				
2.25	357.69	252.47	8.66	82.35	479.02				
2.50	755.39	556.54	11.61	93.64	479.76				
2.75	1279.78	1017.59	14.88	114.39	480.93				
3.00	1717.07	1498.42	18.63	145.03	482.52				
3.25	1895.45	1806.26	49.92	161.62	484.17				
3.50	1824.10	1859.78	92.63	218.57	485.65				
3.75	1615.74	1719.92	95.38	252.16	486.83				
4.00	1386.05	1500.89	145.23	280.69	487.79				
4.25	1194.86	1290.45	267.21	303.03	488.52				
4.50	1043.18	1119.02	412.99	319.18	489.02				
4.75	923.69	983.43	543.04	329.42	489.35				
5.00	827.87	875.78	624.39	335.66	489.54				
5.25	749.29	788.58	684.53	338.84	489.64				
5.50	684.63	716.96	677.35	339.59	489.67				
5.75	626.31	655.47	672.00	339.19	489.65				
6.00	575.19	604.34	667.72	279.43	487.75				

VOLUME CHECK AT HP= 0.02. COMPUTED HP= 2.57 AT ELEV. 489.67 (STORAGE IS 339.5 AC-FT.= 6.56 IN.)
 TIME= 5.50 HOURS CRITICAL VELOCITY= 5.83 CRITICAL DEPTH= 1.05 CRITICAL SLOPE= 2.28.

PEAK INFLOW = 1895. CFS
 TOTAL VOL. THRU EMER SPILLWAY = 152. AC-FT.
 ASCENDING VOL. THRU EMER SPILLWAY = 54. AC-FT.
 PEAK OUTFLOW = 677. CFS
 EXIT CHANNEL VELOCITY = 1.696 AC-FT PER FT. WIDTH
 DURATION OF FLOW= 7.75

NON CRITICAL FLOW
 NON CRITICAL FLOW
 NON CRITICAL FLOW
 5.35 5.40
 5.65 5.77
 5.79 5.94
 5.83 5.99
 5.81 5.97
 NON CRITICAL FLOW

UAM NO. 17-MCNAIRY-CYPRESS CREEK WATERSHED
MCNAIRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

CHEN, S.P., ROUTING BOTTOM WIDTH= 75.0 ENTRANCE LENGTH= 400.0

TYPE	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (FS Q ONLY)	V/E
0-25	0.00	0.00	0.00	74.50	477.50		
0-50	0.00	0.00	0.00	74.50	477.50		
0-75	0.00	0.00	0.00	74.50	477.50		
1-00	0.28	0.14	0.24	74.50	477.55		
1-25	3.83	2.06	3.32	74.51	473.11		
1-50	18.32	11.07	5.36	74.65	476.44		
1-75	57.17	37.74	5.67	75.31	478.53		
2-00	147.24	102.20	6.58	77.30	478.07		
2-25	357.69	252.47	8.86	82.35	477.02		
2-50	755.39	556.54	11.61	93.64	479.76		
2-75	1279.78	1017.59	14.88	114.39	430.93		
3-00	1717.07	1498.42	18.63	145.00	482.52		
3-25	1855.45	1806.26	49.92	181.62	484.17		
3-50	1424.10	1859.74	92.63	218.57	485.65		
3-75	1615.74	1719.92	95.38	252.16	486.83		
4-00	1386.05	1500.43	147.73	280.66	487.77	NON CRITICAL FLOW	5.36
4-25	1194.86	1290.45	275.29	302.95	488.51	NON CRITICAL FLOW	5.71
4-50	1043.18	1119.02	426.05	314.83	489.00	NON CRITICAL FLOW	5.87
4-75	923.69	983.43	557.33	328.99	489.13	5.31	5.36
5-00	827.87	845.78	618.65	346.73	489.51	5.60	5.71
5-25	749.29	788.58	676.94	337.43	489.00	5.74	5.87
5-50	684.63	716.96	687.16	338.15	489.62	5.76	5.91
5-75	626.31	655.47	679.07	337.58	489.60	5.74	5.87
6-00	1.94	2.62	118.42	278.20	487.71	NON CRITICAL FLOW	

VOLUME CHECK AT HP= 0.00. COMPUTED HP= 2.52 AT ELEV. 489.62 (STORAGE IS 338.1 AC.FT.= 6.53 IN.)
TTP= 5.50 HOURS CRITICAL VELOCITY= 5.76 CRITICAL DEPTH= 1.03 CRITICAL SLOPE= 2.30.

PEAK INFLOW	=	1095. CFS
TOTAL VOL. THRU EMR SPILLWAY	=	193. AC-FT.
ASCENDING VOL. THRU EMR SPILLWAY	=	55. AC-FT.
PEAK OUTFLOW	=	687. CFS
EXIT CHANNEL VELOCITY	=	1.618 AC-FT PER FT. WIDTH
	=	5.91

END 1/5

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SUPMARY - RESERVOIR ROUTING PROGRAM

DAM NO. 17-MCNATRY-CYPRESS CREEK WATERSHD
MCNATRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

TYPE	PC	L	ELEV.	MP	STORAGE	Q-TOTAL	Q-EM.SP	V/C	U/C	S/C	S/C.25	DUR-HR	DE/8
ESH	70.	400.	489.89	2.78	346.6	632.3	530.1	6.14	1.17	2.20	3.00	8.25	2.11
	75.	400.	489.83	2.72	344.6	644.7	542.1	6.05	1.14	2.22	3.01	8.00	1.98
	80.	400.	489.77	2.66	342.6	656.4	552.5	5.97	1.10	2.25	3.06	8.00	1.84

DAM NO. 17-MCNATRY-CYPRESS CREEK WATERSHD
MCNATRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

TYPE	PC	L	ELEV.	MP	STORAGE	Q-TOTAL	Q-EM.SP	V/C	U/C	S/C	S/C.25	DUR-HR	DE/8
ESH	85.	400.	489.71	2.60	341.1	666.4	564.7	5.90	1.08	2.26	3.02	7.75	1.78
	90.	400.	489.67	2.57	339.5	677.3	575.6	5.83	1.05	2.28	3.11	7.75	1.69
	95.	400.	489.62	2.52	338.1	687.1	585.5	5.76	1.03	2.30	3.13	7.50	1.61

NOTE - IN ABOVE SUMMARY VC, UC, AND SC WERE COMPUTED FROM Q-EM.SP PER FOOT USING FORMULAS IN T.R.-2 AND T.R.-34.

TITLE1	CAP NO.	17-MCNairy-CYPRESS CREEK WATERSHED			
TITLE2	MCNAIRY COUNTY, TENNESSEE	STRUCTURE CLASS C	01-23-78		
MYCRC	71.	1.41	6.	29.75	.97
SPILLWAY	487.1	1.	2.	2.5	
SPH SIZE	85.	400.	90.	400.	400.
STAGE-CFS	477.5	65.9	0.	0.	0.
STAGE-CFS	477.9	66.	2.	2.	2.
STAGE-CFS	479.	82.1	8.8	8.8	8.8
STAGE-CFS	480.	97.3	12.5	12.5	12.5
STAGE-CFS	482.	134.	17.6	17.6	17.6
STAGE-CFS	483.5	166.	20.6	20.6	20.6
STAGE-CFS	484.	177.5	38.	38.	38.
STAGE-CFS	484.76	195.6	90.4	90.4	90.4
STAGE-CFS	485.	201.	91.	91.	91.
STAGE-CFS	486.	224.	93.5	93.5	93.5
STAGE-CFS	487.1	240.2	96.	96.	96.
STAGE-CFS	487.6	274.9	97.1	97.1	97.1
STAGE-CFS	488.1	289.8	98.3	98.3	98.3
STAGE-CFS	488.6	305.0	99.4	99.4	99.4
STAGE-CFS	489.1	321.9	100.5	100.5	100.5
STAGE-CFS	490.	350.	102.4	102.4	102.4
STAGE-CFS	491.	381.	105.	105.	105.
STAGE-CFS	492.5	428.	108.	108.	108.

END TABLE

COMPUTED DISCHARGE FOR CASE 1.

ELEV= 477.50	STORAGE=	65.9	1ST DISCH=	0.0	2ND DISCH=	0.0	3RD DISCH=	0.0
ELEV= 477.90	STORAGE=	66.0	1ST DISCH=	2.0	2ND DISCH=	2.0	3RD DISCH=	2.0
ELEV= 479.00	STORAGE=	62.1	1ST DISCH=	8.8	2ND DISCH=	8.8	3RD DISCH=	8.8
ELEV= 480.00	STORAGE=	97.3	1ST DISCH=	12.5	2ND DISCH=	12.5	3RD DISCH=	12.5
ELEV= 482.00	STORAGE=	134.0	1ST DISCH=	17.6	2ND DISCH=	17.6	3RD DISCH=	17.6
ELEV= 483.50	STORAGE=	166.0	1ST DISCH=	20.6	2ND DISCH=	20.6	3RD DISCH=	20.6
ELEV= 484.00	STORAGE=	177.5	1ST DISCH=	38.0	2ND DISCH=	38.0	3RD DISCH=	38.0
ELEV= 484.76	STORAGE=	195.6	1ST DISCH=	90.4	2ND DISCH=	90.4	3RD DISCH=	90.4
ELEV= 485.00	STORAGE=	201.0	1ST DISCH=	91.0	2ND DISCH=	91.0	3RD DISCH=	91.0
ELEV= 486.00	STORAGE=	228.0	1ST DISCH=	93.5	2ND DISCH=	93.5	3RD DISCH=	93.5
ELEV= 487.10	STORAGE=	260.2	1ST DISCH=	96.0	2ND DISCH=	96.0	3RD DISCH=	96.0
ELEV= 487.60	STORAGE=	274.9	1ST DISCH=	122.8	2ND DISCH=	124.3	3RD DISCH=	125.8
ELEV= 488.10	STORAGE=	289.8	1ST DISCH=	173.6	2ND DISCH=	178.0	3RD DISCH=	182.3
ELEV= 488.60	STORAGE=	305.8	1ST DISCH=	275.4	2ND DISCH=	285.4	3RD DISCH=	295.4
ELEV= 489.10	STORAGE=	321.9	1ST DISCH=	420.8	2ND DISCH=	438.8	3RD DISCH=	456.8
ELEV= 490.00	STORAGE=	350.0	1ST DISCH=	780.3	2ND DISCH=	817.7	3RD DISCH=	855.0
ELEV= 491.00	STORAGE=	381.0	1ST DISCH=	1333.6	2ND DISCH=	1397.2	3RD DISCH=	1464.0
ELEV= 492.50	STORAGE=	428.0	1ST DISCH=	2456.3	2ND DISCH=	2578.9	3RD DISCH=	2701.4

DAM NO. 17-MCNAIRY-CYPRESS CREEK WATERSHED
MCNAIRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

PAGE NO. 81

FREEBOARD UNCONTROLLED AREA HYDROGRAPH.

MUNIFF = 29.35 IN., VOL. = 1311. AC.FT.

TIME +	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75
0.00 +	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00 +	1036.78	1813.90	3102.02	4667.17	5844.30	6172.17	5749.60	4960.81
4.00 +	6166.14	3527.40	4031.46	2647.48	2345.43	2102.46	1905.63	1731.71
6.00 +	1584.14	1446.30	1265.14	1008.98	734.74	493.76	316.50	207.09
8.00 +	135.69	86.11	56.99	36.62	23.36	14.70	8.96	5.25
10.00 +	2.48	1.31	0.33	0.00				

FREEBUARD ROUTING BOTTOM WIDTH= 85.0 ENTRANCE LENGTH= 400.0

TIME	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (ES Q ONLY)	V/E
0.25	0.00	0.00	0.00	65.90	477.50		
0.50	0.60	0.30	0.10	65.91	477.52		
0.75	16.26	5.43	1.93	66.00	477.89		
1.00	48.85	29.56	2.24	66.56	477.94		
1.25	148.15	98.50	3.07	68.54	478.07		
1.50	329.74	238.94	5.12	73.40	478.41		
1.75	609.54	469.66	9.01	82.95	479.06		
2.00	1038.78	824.19	12.84	99.76	480.13		
2.25	1813.90	1426.34	16.39	124.92	481.72		
2.50	3102.02	2457.96	42.61	179.09	484.07		
2.75	4667.17	3884.60	95.82	257.92	487.02		
3.00	5844.30	5255.74	892.79	356.30	490.20	6.57	6.92
3.25	6172.17	6008.24	2798.07	442.31	492.96	9.71	11.04
3.50	5749.60	5960.88	4050.04	494.72	494.63	10.92	12.72
3.75	4960.81	5355.20	4566.98	516.35	495.32	11.33	13.30
4.00	4166.14	4563.48	4565.42	516.30	495.32	11.33	13.30
8.00	135.69	171.39	570.63	333.60	489.47	5.55	5.65
12.00	0.00	0.00	108.20	266.86	487.13	NON CRITICAL	FLOW

VOLUME CHECK AT MP= 0.74. COMPUTED MP= 8.21 AT ELEV. 495.32 (STORAGE IS 516.3 AC.-FT.= 9.98 IN.)
 TIME= 3.75 HOURS CRITICAL VELOCITY= 11.33 CRITICAL DEPTH= 1.99 CRITICAL SLOPE= 1.46.

PEAK INFLOW = 6172. CFS
 TOTAL VOL. THRU EMER SPILLWAY = 1026. AC.-FT.
 ASCENDING VOL. THRU EMER SPILLWAY = 245. AC.-FT.
 PEAK OUTFLOW = 4566. CFS
 EXIT CHANNEL VELOCITY = 13.30

DURATION OF FLOW= 9.75

WARNING: * SOME ELEVATIONS AND STORAGE QUANTITIES WERE EXTRAPOLATED USING THE LAST TWO
 VALUES FROM EACH ELEVATION AND STORAGE LIST IN THE INPUT ELEVATION-STORAGE TABLE.

FREEDBOARD ROUTING BOTTOM WIDTH= 90.0 ENTRANCE LENGTH= 400.0

TIME	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (ES J ONLY)	V/E
0.25	0.00	0.00	0.00	65.90	477.50		
0.50	0.60	0.30	0.10	65.91	477.52		
0.75	10.26	5.43	1.93	66.00	477.89		
1.00	48.85	29.56	2.24	66.56	477.94		
1.25	148.15	98.30	3.07	68.54	478.07		
1.50	325.74	238.94	5.12	73.40	478.41		
1.75	609.59	469.66	9.01	87.95	479.06		
2.00	1038.72	824.19	12.84	95.76	480.13		
2.25	1813.90	1426.34	16.89	128.92	481.72		
2.50	3102.02	2457.96	42.61	179.09	484.07		
2.75	4487.17	3884.60	95.82	257.92	487.02		
3.00	5844.30	5255.74	928.97	355.92	490.14	6.55	6.89
3.25	6172.17	6008.24	2894.14	440.57	492.90	7.66	10.37
3.50	5749.60	5960.88	4156.45	490.89	494.51	10.84	12.61
3.75	4960.81	5355.20	4649.92	510.56	495.13	11.23	13.15
4.00	4166.14	4563.48	4614.33	509.14	495.09	11.20	13.11
8.00	135.69	171.39	561.21	330.97	489.39	5.42	5.48
12.00	0.00	0.00	108.44	265.61	487.28	NON CRITICAL FLOW	

VOLUME CHECK AT HP= 0.62. COMPUTED HP= 8.02 AT FLEV. 495.13 (STORAGE IS 510.5 AC-FT. @ 9.86 IN.)
 TYPE= 3.75 HOURS CRITICAL VELOCITY= 11.23 CRITICAL DEPTH= 3.92 CRITICAL SLOPE= 1.47.

PEAK INFLOW = 6172. CFS
 TOTAL VOL. THRU EMER SPILLWAY = 1028. AC-FT.
 ASCENDING VOL. THRU EMER SPILLWAY = 251. AC-FT.
 PEAK OUTFLOW = 4649. CFS
 EXIT CHANNEL VELOCITY = 13.15
 DURATION OF FLOW= 9.50

WARNING: SOME ELEVATIONS AND STORAGE QUANTITIES WERE EXTRAPOLATED USING THE LAST TWO VALUES FROM EACH ELEVATION AND STORAGE LIST IN THE INPUT ELEVATION-STORAGE TABLE.

FREEDBOARD ROUTING				ENTRANCE LENGTH= 400.0			
TIME	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (ES Q ONLY)	V/E
0.25	0.00	0.00	0.00	65.90	477.50		
0.50	0.60	0.30	0.10	15.91	477.52		
0.75	10.26	5.43	1.91	66.00	477.89		
1.00	48.85	29.56	2.24	66.56	477.94		
1.25	148.15	98.50	3.37	68.54	478.01		
1.50	329.74	238.94	5.12	73.40	478.41		
1.75	609.59	459.66	9.01	82.95	479.06		
2.00	1038.78	824.19	12.84	99.76	480.13		
2.25	1813.90	1426.34	16.85	128.92	481.72		
2.50	3142.02	2457.96	42.61	179.09	484.07		
2.75	4667.17	3884.60	95.82	247.92	487.02		
3.00	5844.30	5255.74	96.57	355.54	490.18	6.53	6.87
3.25	6172.17	6008.24	2987.18	438.87	492.85	9.61	10.91
3.50	5749.60	5960.88	4257.76	487.19	494.39	10.77	12.50
3.75	4960.61	5355.20	4726.19	505.03	494.96	11.13	13.01
4.00	4166.14	4563.48	4656.70	502.39	494.87	11.08	12.93
8.00	135.69	171.39	549.63	328.44	489.31	5.28	5.12
12.00	0.00	0.00	104.60	264.43	487.24	DOWN CRITICAL FLOW	

VOLUME CHECK AT MP= 0.47. COMPUTED HP= 7.85 AT ELEV. 494.96 (STORAGE IS 505.0 AC-FT., 9.76 IN.)
TIME= 3.75 HOURS CRITICAL VELOCITY= 11.13 CRITICAL UPIN= 3.85 CRITICAL SLOPE= 1.48.

PEAK INFLOW = 6172. CFS
TOTAL VOL. THRU EMER SPILLWAY = 1029. AC-FT.
ASCENDING VOL. THRU EMER SPILLWAY = 258. AC-FT.
PEAK OUTFLOW = 4726. CFS
CL/8 = 10.836 AC-FT PER FT. WIDTH
DURATION OF FLOW= 9.50

WARNING: * SOME ELEVATIONS AND STORAGE QUANTITIES WERE EXTRAPOLATED USING THE LAST TWO VALUES FROM EACH ELEVATION AND STORAGE LIST IN THE INPUT ELEVATION-STORAGE TABLE.

TITLE1	DAM NO. 17-MCNATRY-CYPRESS CREEK WATERSHED				
TITLE2	MCNATRY COUNTY, TENNESSEE		STRUCTURE CLASS C 01-23-78		
MYLWC	71.	1.41	6.	29.75	.97
SPILLWAY	487.1	1.	2.	3.	2.5
SPR. SIZE	70.	100.	75.	400.	400.
STAGE-CFS	477.5	65.9	0.	C.	0.
STAGE-CFS	477.9	66.	2.	2.	2.
STAGE-CFS	479.	82.1	8.8	8.8	8.8
STAGE-CFS	480.	97.3	12.5	12.5	12.5
STAGE-CFS	482.	134.	17.6	17.6	17.6
STAGE-CFS	483.5	166.	20.6	20.6	20.6
STAGE-CFS	484.	177.5	38.	38.	38.
STAGE-CFS	484.76	195.6	90.4	90.4	90.4
STAGE-CFS	485.	201.	91.	91.	91.
STAGE-CFS	486.	228.	93.5	93.5	93.5
STAGE-CFS	487.1	260.2	96.	96.	96.
STAGE-CFS	487.6	274.9	97.1	97.1	97.1
STAGE-CFS	488.1	289.8	98.3	98.3	98.3
STAGE-CFS	488.6	305.8	99.4	99.4	99.4
STAGE-CFS	489.1	321.9	100.5	100.5	100.5
STAGE-CFS	490.	350.	102.6	102.6	102.6
STAGE-CFS	491.	381.	105.	105.	105.
STAGE-CFS	492.5	428.	108.	108.	108.

END TABLE

COMPUTED DISCHARGE FOR CASE 1.

ELEV= 477.50	STORAGE= 65.9	1ST DISCH= 0.0	2ND DISCH= 0.0	3RD DISCH= 0.0
ELEV= 477.90	STORAGE= 66.0	1ST DISCH= 2.0	2ND DISCH= 2.0	3RD DISCH= 2.0
ELEV= 479.00	STORAGE= 82.1	1ST DISCH= 8.8	2ND DISCH= 8.8	3RD DISCH= 8.8
ELEV= 480.00	STORAGE= 97.3	1ST DISCH= 12.5	2ND DISCH= 12.5	3RD DISCH= 12.5
ELEV= 482.00	STORAGE= 134.0	1ST DISCH= 17.6	2ND DISCH= 17.6	3RD DISCH= 17.6
ELEV= 483.50	STORAGE= 166.0	1ST DISCH= 20.6	2ND DISCH= 20.6	3RD DISCH= 20.6
ELEV= 484.00	STORAGE= 177.5	1ST DISCH= 38.0	2ND DISCH= 38.0	3RD DISCH= 38.0
ELEV= 484.76	STORAGE= 195.6	1ST DISCH= 90.4	2ND DISCH= 90.4	3RD DISCH= 90.4
ELEV= 485.00	STORAGE= 201.0	1ST DISCH= 91.0	2ND DISCH= 91.0	3RD DISCH= 91.0
ELEV= 486.00	STORAGE= 228.0	1ST DISCH= 93.5	2ND DISCH= 93.5	3RD DISCH= 93.5
ELEV= 487.10	STORAGE= 260.2	1ST DISCH= 96.0	2ND DISCH= 96.0	3RD DISCH= 96.0
ELEV= 487.60	STORAGE= 274.9	1ST DISCH= 110.3	2ND DISCH= 110.3	3RD DISCH= 110.3
ELEV= 488.10	STORAGE= 289.8	1ST DISCH= 160.6	2ND DISCH= 160.6	3RD DISCH= 160.6
ELEV= 488.60	STORAGE= 305.8	1ST DISCH= 245.3	2ND DISCH= 245.3	3RD DISCH= 245.3
ELEV= 489.10	STORAGE= 321.9	1ST DISCH= 366.8	2ND DISCH= 366.8	3RD DISCH= 366.8
ELEV= 490.00	STORAGE= 350.0	1ST DISCH= 668.3	2ND DISCH= 668.3	3RD DISCH= 668.3
ELEV= 491.00	STORAGE= 381.0	1ST DISCH= 1135.0	2ND DISCH= 1135.0	3RD DISCH= 1135.0
ELEV= 492.50	STORAGE= 422.0	1ST DISCH= 2088.4	2ND DISCH= 2088.4	3RD DISCH= 2088.4

FREEBOARD UNCONTROLLED AREA HYDROGRAPH.

RUNOFF = 25.35 IN. VOL. = 1311. AC.FT.

TIME	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75
0.00	0.00	0.00	0.60	10.26	48.85	1-8.15	329.74	609.59
2.00	1038.78	1813.90	3102.02	4667.17	5844.30	6172.17	5749.60	4960.81
4.00	4166.14	3527.40	3031.46	2647.48	2345.43	2102.46	1905.63	1731.71
6.00	1984.14	1446.30	1265.14	1008.88	734.94	493.76	316.50	207.09
8.00	135.69	88.11	56.99	36.62	23.36	14.70	8.96	5.25
10.00	2.88	1.31	0.33	0.00				

FREEDHARD ROUTING BOTTOM WIDTH= 70.0 ENTRANCE LENGTH= 400.0

TIME	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (ES Q ONLY)	V/E
0.25	0.00	0.00	0.00	55.90	477.50		
0.50	0.60	0.30	0.10	65.91	477.52		
0.75	10.26	5.43	1.93	66.00	477.89		
1.00	48.85	29.56	2.24	66.56	477.94		
1.25	148.15	98.50	3.07	68.54	478.07		
1.50	329.74	239.54	5.12	73.40	478.41		
1.75	605.59	469.66	9.01	82.95	479.06		
2.00	1038.78	824.19	12.84	99.74	480.13		
2.25	1813.40	1426.34	16.89	128.92	481.72		
2.50	3162.02	2457.96	42.61	179.09	484.07		
2.75	4667.17	3884.60	95.82	247.92	487.02		
3.00	5844.30	5255.74	780.64	337.46	490.24	6.64	7.00
3.25	6172.17	6008.74	2490.40	447.80	493.13	9.65	11.24
3.50	5749.60	5960.88	3693.10	507.08	495.02	11.15	13.04
3.75	4960.81	5355.20	4267.11	535.47	495.93	11.65	13.75
4.00	4166.14	4563.48	4171.13	540.50	496.09	11.74	13.87
4.25	3527.40	3846.77	4189.41	531.54	495.80	11.59	13.65
4.50	2811.11	3111.90	501.28	334.43	489.50	5.40	5.71
4.75	0.00	0.00	109.75	269.22	487.41	NON CRITICAL FLOW	

VOLUME CHECK AT HP= 0.39. COMPUTED HP= 8.98 AT ELEV. 496.09 (STORAGE IS 540.5 AC-FT.=10.44 IN.)
TYPE= 4.00 MOUNDS CRITICAL VELOCITY= 11.74 CRITICAL DEPTH= 4.28 CRITICAL SLOPE= 1.43.

PEAK INFLOW = 6172. CFS
TOTAL VOL. THRU EMER SPILLWAY = 1022. AC-FT.
ASCENDING VOL. THRU EMER SPILLWAY = 310. AC-FT.
PEAK OUTFLOW = 4371. CFS
EXIT CHANNEL VELOCITY = 14.601 AC-FT PER FT. WIDTH
DURATION OF FLOW= 10.25

WARNING: * SOME ELEVATIONS AND STORAGE QUANTITIES WERE EXTRAPOLATED USING THE LAST TWO VALUES FROM EACH ELEVATION AND STORAGE LIST IN THE INPUT ELEVATION-STORAGE TABLE.

FREEDMAN ROUTING BOTTOM WIDTH= 75.0 ENTRANCE LENGTH= 400.0

TIME	INFLOW	AVE INFLOW	OUTFLOW	STORAGE	ELEVATION	V/C (ES 0 ONLY)	V/E
0.25	0.00	0.00	0.00	65.90	477.50		
0.50	0.60	0.30	0.10	65.91	477.52		
0.75	10.26	5.43	1.93	66.00	477.89		
1.00	48.85	29.56	2.24	66.56	477.94		
1.25	148.15	98.50	3.07	68.54	478.07		
1.50	329.74	238.94	5.12	73.40	478.41		
1.75	602.59	469.66	9.01	82.95	479.06		
2.00	1038.78	826.19	12.84	99.76	480.13		
2.25	1813.90	1426.34	16.89	128.92	481.72		
2.50	3102.02	2457.96	42.61	179.09	484.07		
2.75	4667.17	3886.60	95.82	257.92	487.02		
3.00	5844.38	5255.74	818.64	357.06	490.23	6.62	6.97
3.25	6172.17	6008.24	2596.33	445.92	493.07	9.80	11.18
3.50	5749.60	5960.88	3818.72	502.81	494.89	11.07	12.93
3.75	4960.81	5355.20	4376.95	528.79	495.72	11.55	13.60
4.00	4166.14	4563.48	4444.72	531.94	495.82	11.60	13.67
4.25	3527.40	3846.77	4227.48	521.83	495.49	11.42	13.42
4.50	88.11	111.90	489.78	331.09	489.39	5.43	5.50
4.75	0.00	0.00	107.99	267.57	487.35		
5.00							

NON CRITICAL FLOW

VOLUME CHECK AT MP= 0.54. COMPUTED MP= 8.71 AT ELEV. 495.82 STORAGE IS 531.9 AC.FT.=10.28 IN.)
 TIME= 4.00 HOURS CRITICAL VELOCITY= 11.60 CRITICAL DEPTH= 4.18 CRITICAL SLOPE= 1.44.

PEAK INFLOW = 6172. CFS

TOTAL VOL. THRU EXER SPILLWAY = 1023. AC-FT.

ASCENDING VOL. THRU EXER SPILLWAY = 320. AC-FT.

PEAK OUTFLOW = 4444. CFS

CE/B = 13.651 AC-FT PER FT. WIDTH

EXIT CHANNEL VELOCITY = 13.67

DURATION OF FLOW= 10.00

WARNING: SOME ELEVATIONS AND STORAGE QUANTITIES WERE EXTRAPOLATED USING THE LAST TWO VALUES FROM EACH ELEVATION AND STORAGE LIST IN THE INPUT ELEVATION-STORAGE TABLE.

PRELIMINARY RATING		BOTTOM WIDTH= 80.0		ENTRANCE LENGTH= 400.0		V/C	V/L
TIME	INFLW	AVE INFLW	OUTFLW	STORAGE	ELEVATION		
0.25	0.00	0.00	0.00	65.90	477.50		
0.50	0.60	0.30	0.10	65.91	477.52		
0.75	16.26	5.43	1.93	66.00	477.53		
1.00	48.85	29.56	2.24	66.56	477.94		
1.25	148.15	76.50	3.07	68.54	478.07		
1.50	329.74	238.94	5.12	73.40	478.41		
1.75	609.59	469.66	9.01	82.95	479.06		
2.00	1036.78	824.19	12.84	99.76	480.13		
2.25	1415.20	1426.34	16.95	128.92	481.72		
2.50	3102.02	2457.96	42.61	179.07	484.07		
2.75	4667.17	3884.60	95.82	247.92	487.02		
3.00	5844.30	5255.74	856.02	356.68	470.22	6.60	6.95
3.25	6172.17	6008.24	2698.84	444.09	473.01	9.76	11.11
3.50	5749.60	5960.88	3737.58	498.69	474.76	10.99	12.82
3.75	4980.81	5355.20	4475.91	522.42	475.51	11.44	13.45
4.00	4166.14	4563.48	4509.17	523.89	475.56	11.47	13.49
4.25	1527.40	3646.77	4257.63	512.80	475.21	11.26	13.20
4.50	88.11	111.90	476.57	327.97	469.29	5.26	5.10
4.75	0.00	0.00	106.09	266.04	467.30	NON CRITICAL	FLUM

VOLUME CHECK AT HP= 0.66. COMPUTED HP= 8.46 AT ELEV. 495.56 (STORAGE IS 523.8 AC-FT.=10.12 IN.)
 TYPE= 4.00 HOURS CRITICAL VELOCITY= 11.47 CRITICAL DEPTH= 4.09 CRITICAL SLOPE= 1.45.

PEAK INFLC= 6172. CFS
 TOTAL VOL. THRU ENTER SPILLWAY = 1025. AC-FT.
 ASCENDING VCL THRU ENTER SPILLWAY = 329. AC-FT.
 PEAK OUTFLC= 4509. CFS
 CE/P = 12.818 AC-FT PER FT. WIDTH
 EXIT CHANNEL VELOCITY = 13.49

DURATION OF FLOW= 9.75

WARNING: * SOME ELEVATIONS AND STORAGE QUANTITIES WERE EXTRAPOLATED USING THE LAST TWO
 VALUES FROM EACH ELEVATION AND STORAGE LIST IN THE INPUT ELEVATION-STORAGE TABLE.

ENL W/S

PAGE NO. 91

SUMMARY - RESERVOIR ROUTING PROGRAM

DAM NO. 17-MCNAIRY-CYPRESS CREEK WATERSHED
MCNAIRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

TYPE	BC	L	ELEV.	MP	STORAGE	Q-TOTAL	Q-EM-SP	V/C	D/C	S/C	S/C-25	DUR-HR	OE/B
FBP	85.	400.	495.32	8.21	516.3	4566.6	4453.0	11.33	3.97	1.44	1.90	9.75	12.08
	90.	400.	495.13	8.02	510.5	4649.9	4536.6	11.23	3.92	1.47	2.00	9.50	11.42
	95.	400.	494.96	7.85	505.0	4726.1	4613.2	11.13	3.85	1.48	2.02	9.50	10.83

DAM NO. 17-MCNAIRY-CYPRESS CREEK WATERSHED
MCNAIRY COUNTY, TENNESSEE STRUCTURE CLASS C 01-23-78

TYPE	PC	L	ELEV.	MP	STORAGE	Q-TOTAL	Q-EM-SP	V/C	D/C	S/C	S/C-25	DUR-HR	OE/B
FEM	70.	400.	496.09	8.98	540.5	4371.1	4255.9	11.74	4.28	1.43	1.95	10.25	14.60
	75.	400.	495.82	8.71	531.9	4446.7	4330.0	11.60	4.18	1.44	1.96	10.00	13.65
	80.	400.	495.56	8.46	523.8	4509.1	4395.0	11.47	4.09	1.45	1.98	9.75	12.81

NOTE - IN ABOVE SUMMARY VC, LC, AND SC WERE COMPUTED FROM (Q-EM-SP) PER FOOT USING FORMULAS IN I.R.-2 AND I.R.-39.

APPENDIX G
CORRESPONDENCE

State of Tennessee
DEPARTMENT OF CONSERVATION
Division of Water Resources
6213 Charlotte Avenue
Nashville, Tennessee 37209

PS. — of —

RECEIVED

MAY 20 1981

APPLICATION FOR CERTIFICATE OF APPROVAL AND SAFETY DEPT. OF CONSERVATION
WATER RESOURCES

In accordance with the provisions of Tennessee Code Annotated Section 70-2505 and Rules and Regulations applied to the Safe Dams Act of 1973, application is hereby made to:

Operate _____ a dam, known as the
^(Name of dam)
McNairy-Cypress No. 1 DAM located in McNairy County, Tennessee.

Applicant Owner McNairy County Commission Telephone 901-645-3472

Mailing Address McNairy County Commission
P. O. Box 188, Selmer, TN. 38375

Legal Address McNairy County Courthouse, Selmer, TN.

Note: All owners must be listed. (attach Form 75-01B for additions).

DESCRIPTION OF DAM AND RESERVOIR

Maximum Height: 34.1 ft. Crest: length 987 ft. width 18 ft.

Drainage Area: 621 acres Freeboard at normal pool: 9.5 ft.

Reservoir Surface Area: 13 acres (normal pool)

33 acres (maximum) pool

Reservoir Storage Capacity: 60 acre-ft. (normal pool)

440.7 acre-ft. (maximum) pool

Type Emergency Spillway Earth Capacity 4,582.56 cfs

Purpose of dam and reservoir Floodwater detention & Sediment storage.

Location: (attach USGS Topographic Map showing location of dam;
reservoir surface area, and property boundaries of owners.)

USGS Map No. AMS3256 Dam centerline: Latitude 38° 32' 23 "

1 NE Series V841
Fukdy - 4NE

Longitude 85° 10' 03 "

Date _____ Signed _____
By William H. Tate
County McNairy official title _____

*** Office Use Only ***

Fee Receipt No. _____ Application No. 81-101-0

Construction Certificate No. _____ Issued _____ Expires _____

Operation Certificate No. _____ Issued _____ Expires _____

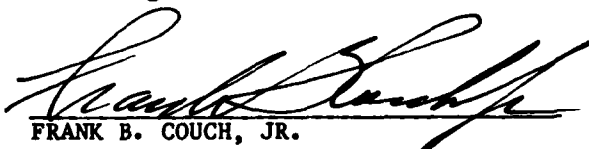
Remarks _____

ORNED-G

NON-FEDERAL DAM INSPECTION REVIEW BOARD
PO BOX 1070
NASHVILLE, TENNESSEE 37202

Commander, Nashville District
US Army Corps of Engineers
PO Box 1070
Nashville, TN 37202

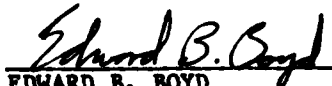
1. The Interagency Review Board, appointed by the Commander on 19 June 1981, presents the following recommendations after meeting on 27 August 1981, to consider the Phase I investigation report on McNairy Cypress Creek Watershed Dam No. 17, inspected by the Tennessee Department of Conservation.
2. All vehicles should be prohibited from driving on the embankment.
3. The design routing attached to the report is to be verified to assure that present conditions are reflected in the computations.
4. The Board is in agreement with other report conclusions and recommendations following minor revisions.


FRANK B. COUCH, JR.
Chief, Geotechnical Branch
Chairman


BOBBY G. MOORE
Assistant State Conservation Engineer
Alternate, Soil Conservation Service


EDMOND B. O'NEILL
Alternate, Division of Water Resources
State of Tennessee


THOMAS N. PORTER
Hydraulic Engineer
Alternate, Hydrology and Hydraulics
Branch


EDWARD B. BOYD
Hydrologic Technician
Alternate, US Geological Survey


JAMES GUNNELS
Structural Engineer
Alternate, Design Branch

DATE
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