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NATIONAL DAM SAFETY PROGRAM. SPORTSMEN'S CLUB DAM (VA18502), TE--ETC(U)
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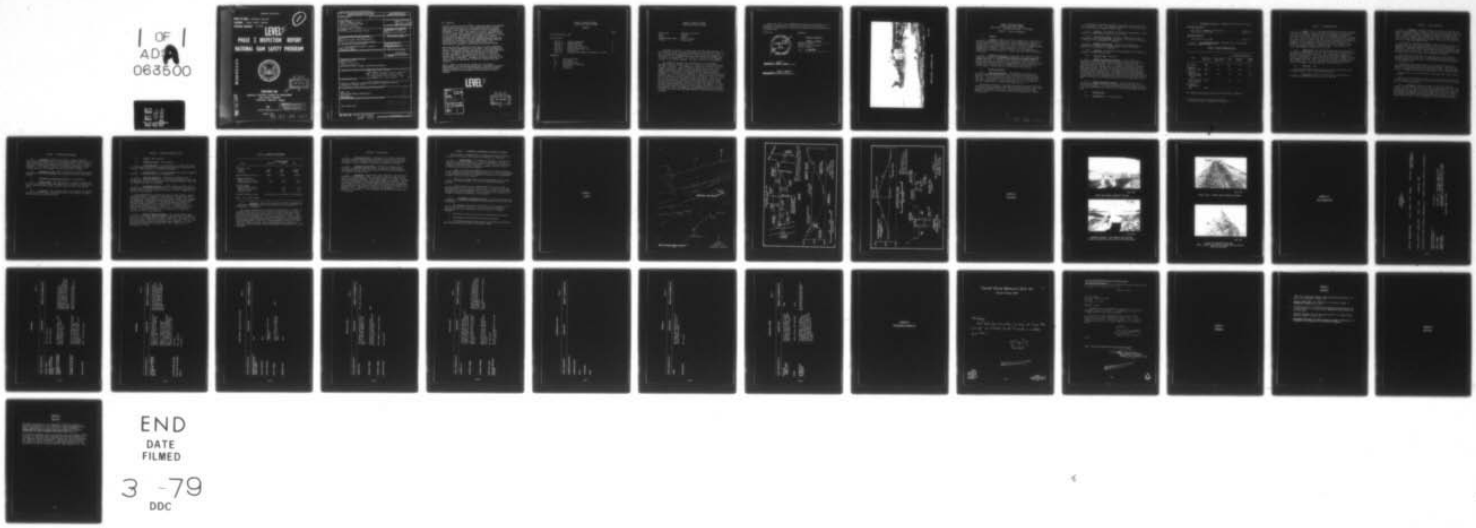

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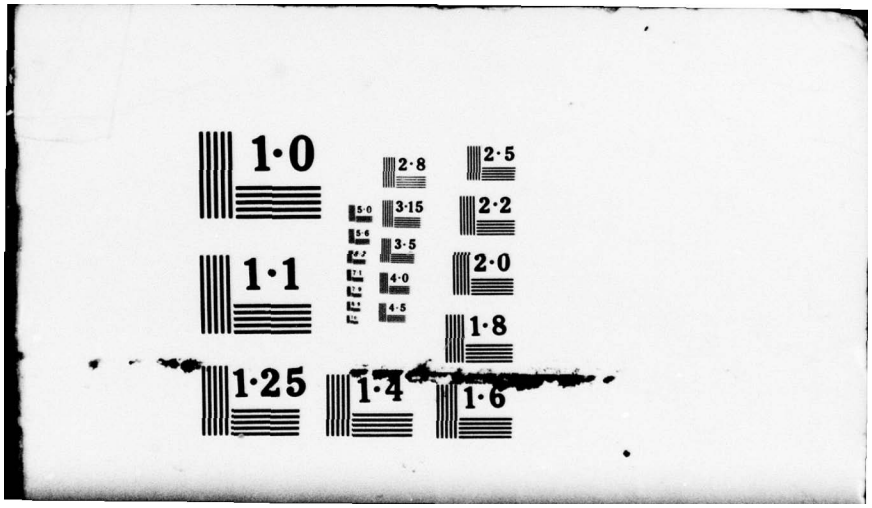
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TENNESSEE RIVER BASIN

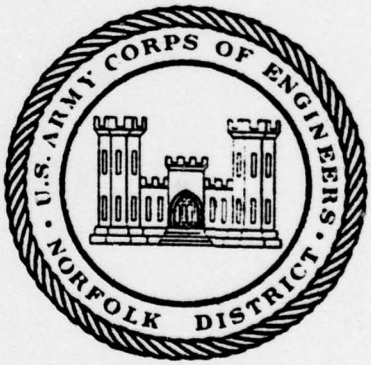
Name Of Dam: SPORTSMEN'S CLUB DAM

Location: TAZEWELL COUNTY, VIRGINIA

Inventory Number: VA 18502

LEVEL II

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM



PREPARED FOR

NORFOLK DISTRICT CORPS OF ENGINEERS
803 FRONT STREET
NORFOLK, VIRGINIA 23510

BY

GILBERT ASSOCIATES, INC.

AUGUST, 1978

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

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Sportsmen's Club Dam
Tazewell County, Virginia

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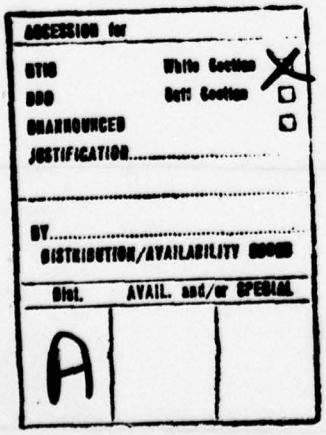
20. Abstract

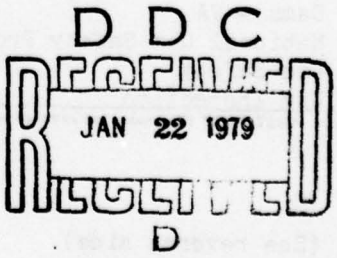
Pursuant to Public Law 92-367, Phase I Inspection Reports are prepared under guidance contained in the recommended guidelines for safety inspection of dams, published by the Office of Chief of Engineers, Washington, D. C. 20314. The purpose of a Phase I investigation is to identify expeditiously those dams which may pose hazards to human life or property. The assessment of the general conditions of the dam is based upon available data and visual inspections. Detailed investigation and analyses involving topographic mapping, subsurface investigations, testing, and detailed computational evaluations are beyond the scope of a Phase I investigation; however, the investigation is intended to identify any need for such studies.

Based upon the field conditions at the time of the field inspection and all available engineering data, the Phase I report addresses the hydraulic, hydrologic, geologic, geotechnic, and structural aspects of the dam. The engineering techniques employed give a reasonably accurate assessment of the conditions of the dam. It should be realized that certain engineering aspects cannot be fully analyzed during a Phase I inspection. Assessment and remedial measures in the report include the requirements of additional indepth study when necessary.

Phase I reports include project information of the dam and appurtenances, all existing engineering data, operational procedures, hydraulic/hydrologic data of the watershed, dam stability, visual inspection report and an assessment including required remedial measures.

LEVEL II





PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM

CONTENTS

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM

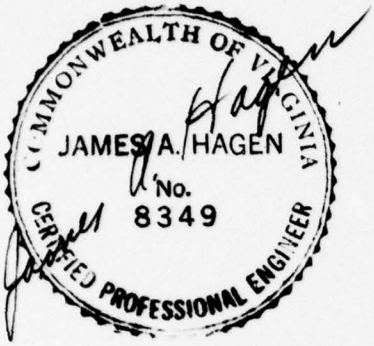
Name of Dam:	Sportsmen's Club Dam
State:	Virginia
County:	Tazewell
USGS Quadrangle Sheet:	Tiptop, Virginia
Stream:	Little Creek

Sportsmen's Club Dam is a 23-foot high, 650-foot long earth dam. No plans, specifications, or design information were available on the dam. It has a new concrete principal spillway which was constructed during 1977 at which time the old corrugated metal pipe (CMP) spillway was plugged with concrete at its upstream end. It also has a wide grass covered emergency spillway at the opposite abutment. The dam is used only for recreation.

The inspection indicated that the dam was not in an imminently hazardous condition; however, there are a number of concerns which require the owner's attention. (See Appendix VI, Conditions) The dam will pass a 100-year flood with 1.3 feet of freeboard and about 40 percent of the probable maximum flood (PMF) without overtopping, which is considered adequate for a small dam in the significant hazard category based on paragraph 3.5.1 of Reference 1 of Appendix V. Adjacent to the new principal spillway, there is a low earthen area with no ground cover which should be built up and stabilized with grasses within three months. There is erosion in this same area at the upstream and downstream edges of the principal spillway which should be properly regraded and protected against further erosion within three months. There is a leak near the right side of the principal spillway which should be repaired within three months. The owner has indicated he intends to have the leak stopped, and the low area filled and seeded this year. An emergency warning procedure should be developed within 30 days, which specifies when downstream residents should be notified of danger.

Until such time as the recommendations contained in this Report can be implemented, during periods of heavy rainfall the owner should provide round-the-clock surveillance and prepare to implement the warning procedures recommended above.

Prepared by:



APPROVED:

Original signed by:

Douglas L. Haller

Douglas L. Haller
Colonel, Corps of Engineers
District Engineer

Date: **21 AUG 1978**

Original
Submitted By: JAMES A. WALSH

Original signed by
Recomended By: ZANE M. GOODWIN

June 1978

OVERVIEW PHOTO - SPORTSMEN'S CLUB

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM
NAME OF DAM: Sportsmen's Club Dam ID# VA 18502

SECTION 1 - PROJECT INFORMATION

1.1 General

1.1.1 Authority: Public Law 92-367, 8 August 1972, authorized the Secretary of the Army, through the U.S. Corps of Engineers to initiate a national program of safety inspections of non-Federal dams throughout the United States. The Norfolk District of the U.S. Corps of Engineers has been assigned the responsibility of the inspection of the dams in the Commonwealth of Virginia. Gilbert Associates, Inc. has entered into a contract with the Norfolk District to inspect this dam, Gilbert Work Order 06-7250-003.

1.1.2 Purpose of Inspection: The purpose is to conduct a Phase I inspection according to the Recommended Guidelines for Safety Inspection of Dams (Reference 5 of Appendix V) and contract requirements between Gilbert Associates, Inc. and the Corps of Engineers. The objectives are to expeditiously identify whether this dam apparently poses an immediate threat to human life or property, and to recommend future studies and/or any obvious remedial actions that may be indicated by the inspection.

1.2 Project Description

1.2.1 Dam and Appurtenances: The Sportsmen's Club Dam is an earthfill structure about 650 feet long (including the spillways) and 23 feet high. The top of the dam is 12 feet wide and is at elevation 3006± feet m.s.l. Side slopes are 3 horizontal to 1 vertical on the downstream side and on the reservoir side are 2 horizontal to 1 vertical above the water and 3 horizontal to 1 vertical entering the water.

The principal spillway is a one year old reinforced concrete gated drop inlet type with weir length of 5 feet, bottom elevation at 2995.5 feet, and a normal top elevation of 3000 feet. The reinforced concrete spillway channel is excavated in the original ground and discharges into a shallow stilling basin.

The dam has a plugged and abandoned 27-inch CMP culvert passing under it (See paragraph 1.2.7). The emergency spillway has a crest elevation of 3002.5 feet and a flow length of about 81 feet.

1.2.2 Location: The Sportsmen's Club Dam is located about 3 miles northwest of Burkes Garden, Virginia on Little Creek.

1.2.3 Size Classification: The dam is classified as a small structure because of its impoundment estimated at 155 acre-feet, according to Section 2.1.1 of Reference 5 of Appendix V.

1.2.4 Hazard Classification: This dam is classified as a significant hazard dam in accordance with the criteria established in Section 2.1.2 of Reference 5 of Appendix V.

1.2.5 Ownership: The Tazewell County Sportsmen's Club (TCSC) Inc., Tazewell, Virginia, zip code 24651.

1.2.6 Purpose of Dam: Recreation

1.2.7 Design and Construction History: Mr. Eli Jones, Jr., President of the TCSC, reported that the dam was originally designed and constructed in the late 1950's under the guidance of the U.S. Soil Conservation Service (USSCS). Mr. J. M. Stewart of the USSCS in Tazewell agrees with this but indicated that any drawings and designs of that age have been destroyed. The owner was not able to locate any drawings or design data on the dam other than a 1959 inspection report which indicates that the principal spillway was 2.4 feet higher than the plans indicated. Mr. Eli Jones, Jr. has stated that this situation was corrected when the old rusting CMP spillway was abandoned by filling the inlet with about 4 feet of concrete and using a new concrete spillway built to the proper elevation in 1977.

1.2.8 Normal Operational Procedure: At this time there are no operational procedures as excess storm flow passes over the steel plate in the principal spillway. Mr. Jones reported that the TCSC intends to provide a gate hoist mechanism in the future to allow some discharge under the steel gate.

1.3 Pertinent Data

1.3.1 Drainage Area: 2.50 square miles.

1.3.2 Discharge at Dam Site: Maximum flood at dam site not known.

Principal Spillway:[1]

Pool level at emergency spillway crest . . . . . 290 c.f.s.
Pool level at top of dam . . . . . 2250 c.f.s.

Emergency Spillway:

Pool level at top of dam . . . . . 2070 c.f.s.

1.3.3 Dam and Reservoir Data: Pertinent data on the dam and reservoir is shown in Table 1.1:

Table 1.1 DAM AND RESERVOIR DATA

Item	Elevation feet m.s.l.	Water Surface Area-acres	Reservoir Capacity		
			Acre-feet	Watershed inches	Length miles
Top of Dam	3006	16	155	1.2	0.3
Emergency Spillway Crest	3002.5	12	106	0.8	0.2
Principal Spillway Crest (Top of Closed Gate)	3000	10	73	0.6	0.16
Spillway Invert (Gate removed)	2995.5	8	36	0.3	-
Streambed at Centerline of Dam	2983	0	0	0	0

For other dam construction details see the drawings in Appendix I.

(1) With gate closed, at elevation 3,000 feet m.s.l.

SECTION 2 - ENGINEERING DATA

2.1 Design: Mr. E. Jones indicated the dam was probably designed either by the USSCS or to their standards and approval in the late 1950's. Also, the 1977 principal spillway revision was designed by the USSCS, according to Mr. Jones. The local office of the USSCS in Tazewell, Virginia (Mr. J. M. Stewart) indicated that they do not have drawings or design data on the dam. Mr. S. E. Hall of the Soil Conservation Service-State Office in Richmond, Virginia stated that they have no record of this dam, and, therefore, it is probably not a flood prevention dam but rather a "farm-pond" type dam where records are handled locally. The owner could not locate any drawings or design data on this dam.

2.2 Construction: Mr. Jones indicated no data was available on the original construction of the dam. He also mentioned that the principal spillway was constructed by the J. W. and L. Construction Company of Tazewell, Virgina in 1977. The owner reported he plans to withhold some portion of the payment for that work until the contractor attempts to repair the leakage on the right side of the spillway and places a ground cover on the disturbed areas. Mr. Jones indicated the contractor may attempt to reduce the seepage by pressure grouting in that area this year.

2.3 Operation: None.

The excess stormwater freely passes over the top of the gate in the principal spillway. No flow records are maintained.

2.4 Evaluation: Records of the design and construction are lacking and should be available for a dam of this age.

SECTION 3 - VISUAL INSPECTION

3.1 Findings: The dam is located in a relatively wide and flat valley which widens further downstream. The hills enclosing the valley are gently to moderately sloping. The reservoir shoreline is densely wooded and stable. Vegetative growth and staining of the riprap indicated that the water level had a higher normal elevation previously, thus supporting the owner's claim that the new principal spillway lowered the pool elevation by 2.4 feet to comply with USSCS criteria.

No evidence of significant settlement, severe cracking, or erosion was observed at the dam. The downstream slope of the dam was adequately vegetated for protection against erosion, and did not show any sign of slope instability. The surficial soil on the slope consisted of light brown sandy silt with trace to little clay. The soil around the downstream end of the abandoned outlet pipe was eroded, but no seepage was observed.

Minor erosion was observed on the upstream slope along the upper boundary line of the riprap; that is, approximately 6 feet below the top of the dam, measured along the slope. No other sign of distress was observed on the upstream slope.

Some erosion of the sandy gravelly soil was observed at both the upstream and downstream corners of the concrete spillway. The downstream channel of the spillway consisted of weathered red shale. There was about 5 g.p.m. of leakage coming from the right abutment of the concrete spillway.

No large trees or even objectionably large shrubs were found to exist at the dam.

There is a fill area which is about 0.2 feet lower than the top of the concrete structure for the principal spillway between the principal spillway and the undisturbed shoreline.

3.2 Evaluation: With the exception of the area around the concrete spillway, the dam exhibited no signs of significant distress. The recently filled area in the vicinity of the principal spillway is lower than the emergency spillway and in its present unprotected state is more likely to erode than the emergency spillway area under flood conditions. There is some seepage around the principal spillway structure which may increase under high water levels. For an assessment of this situation see Section 7.

SECTION 4 - OPERATIONAL PROCEDURES

4.1 Procedures: There are no formal or informal operating procedures for this dam currently. The principal spillway can draw the pool down to elevation 2,995.5 feet only, which leaves about 12 feet of water which must be removed by methods such as siphoning or pumping if it becomes necessary. A small amount of water is drawn off through a small valved flexible pipe to a fish breeding tank just downstream of the dam.

4.2 Maintenance of Dam: While there has been apparently adequate maintenance on the dam and appurtenances during past years, no formal plan exists.

4.3 Maintenance of Operating Facilities: Not applicable.

4.4 Warning System: The caretaker, Mr. L. Lawson, indicated that he would call the nearby downstream homes from his residence at the damsite, should a problem become evident, and would then notify Mr. Jones and the police.

4.5 Evaluation: The procedures appear to be adequate considering the condition and the hazard classification of this dam; however, a formal warning procedure should be developed.

SECTION 5 - HYDRAULIC/HYDROLOGIC DATA

5.1 Design: None available.

5.2 Hydrologic Record: None available.

5.3 Flood Experience: It was reported by Mr. Lawson that water was high enough to pass over the emergency spillway only in the years 1957 and 1977. Other than that, no records are available.

5.4 Flood Potential: Various hydrographs were routed through the reservior. The results are given in paragraph 5.6.

5.5 Reservoir Regulation: Previously the regulation was uncontrolled. With the construction of new principal spillway, outflow can be regulated with the help of the gate in the principal spillway. Flow over the emergency spillway is unregulated.

5.6 Overtopping Potential: The PMF, one-half the PMF, and the 100-year flood hydrographs were developed for the Sportsmen's Club Reservoir drainage basin and routed through the reservoir. Table 5.1 summarizes the results of this procedure.

The hydrographs were developed and routed by using the HEC-1 computer program (Reference 1 of Appendix V) and appropriate precipitation, unit hydrograph, and storage volume versus outflow data as input. The triangular unit hydrograph was developed from the drainage area and estimated time to peak (Reference 2 of Appendix V). Probable maximum precipitation and 100-year precipitation data were obtained from U.S. Weather Bureau publications (References 3 and 4 of Appendix V). Information from field observations and measurements was used to compute the storage-outflow relation. Losses were estimated at an initial loss of 1.0 inch and a constant loss rate of 0.42 inch/hour.

5.7 Reservoir Emptying Potential: The 27-inch diameter pipe which would allow nearly complete drawdown of the Sportsmen's Club Reservoir has had its inlet plugged and is therefore inoperative. The reservoir can now be drawn down to only elevation 2995.5 feet, 6 feet below the top of the principal spillway structure, by opening its gate completely. The time required for drawdown from elevation 3001.5 feet to 2995.5 feet is approximately 27 hours.

Table 5.1 RESERVOIR PERFORMANCE

Item	Flood Hydrograph 100-year	1/2 PMF	PMF
Peak Flow, c.f.s.			
Inflow	2360	5470	10,900
Outflow	2330	5420	10,800
Peak Elevation, feet m.s.l.	3004.7	3006.4	3008.2
Emergency Spillway			
Depth of Flow, feet(a)	1.6	2.9	4.1
Average Velocity, f.p.s.	7.2	9.1	10.8
Dam Overtopping			
Depth of Flow, feet(a)	-	0.4	1.6
Average Velocity, f.p.s.	-	3.6	7.2
Duration, hours	-	1.5	4.0
Tailwater Elevation, feet	Not Available	Not Available	Not Available

Note: (a) Critical depth

5.8 Evaluation: The spillway capacity of the dam is adequate for a small dam of intermediate hazard classification based on paragraph 3.5.1 of Reference 1 of Appendix V.

The results indicate that the Sportsmen's Club Reservoir is capable of passing the 100-year flood with 1.3 feet of freeboard to the top of the earth dam at the peak water surface elevation. The one-half PMF overtops the dam by about a maximum of 0.4 feet for a duration of 1.5 hours. This amount of flow could cause erosion on the unprotected fill areas adjacent to the principal spillway; however, because of the gravelly fill and exposed rocky base materials in this area, it would probably not result in a rapid and total failure of the dam. The conclusions pertain to present day conditions, and the effects of future development on hydrology have not been considered.

SECTION 6 - DAM STABILITY

6.1 Stability Analysis: No design or construction information, including stability analysis or soil descriptions, is available for this earth dam. Based on conventional practice, our inspection, and the dam's performance so far, the slopes of the dam are observed to be stable.

6.2 Foundation and Abutments: No data are available on the foundation or abutments, however, a lack of significant underseepage or settlement during the visual inspection indicated that the dam foundation and abutments have been stable.

6.3 Evaluation: Based on the visual inspection, the dam and its foundation are sufficiently stable, and further stability studies at this time are not deemed necessary. The abutments appear to be stable, provided that the erosion problems noted at the right abutment are remedied. The dam is located within Zone 2 on the Algermissen Seismic Risk Map of the United States (1969 edition) and the visual inspection indicates the dam apparently has satisfactory static stability conditions and conventional safety margins apparently exist. Therefore, in accordance with paragraph 3.6.4 of Reference 1 of Appendix V, it may be assumed the dam presents no hazard due to earthquakes.

SECTION 7 - ASSESSMENTS, RECOMMENDATIONS/REMEDIAL MEASURES

The assessment, recommendations, and remedial measures contained in this Report are based on the provisions of Appendix VI, Conditions.

7.1 Dam Assessment: No evidence was obtained to indicate that this dam in its present condition is structurally unsound. The dam is capable of passing the 100-year flood with 1.3 feet of freeboard and about 40 percent of the PMF without overtopping. However, there are several conditions which are a cause for concern.

a. There is an area of embankment about 0.2 feet lower than the top of the concrete for the adjacent principal spillway. In case of overtopping of the principal spillway, such a depression could result in concentrated erosion of the fill at that location.

b. There are two eroded areas at the upstream edges and two eroded areas at the downstream edges of the recently constructed principal spillway.

c. There is about 5 g.p.m. leakage emerging at the top of the downstream right wall of the principal spillway. It is not critical under the normal-pool condition because of the low head of water at the location and gently sloping right abutment. However, during a flood condition, the leakage can seriously undermine the wall foundation.

7.2 Recommendations/Remedial Measures: The following actions are recommended for the owner's consideration and implementation within the next three months:

a. The embankment should be raised higher than the concrete top of the principal spillway, preferably at least as high as the emergency spillway and stabilized with grasses and riprap similar to the main embankment.

b. Eroded areas should be protected with adequately sized riprap.

c. The leakage at the spillway wall should be repaired.

d. An emergency warning procedure should be developed which specifies when downstream residents should be notified of danger.

APPENDIX I

FIGURES

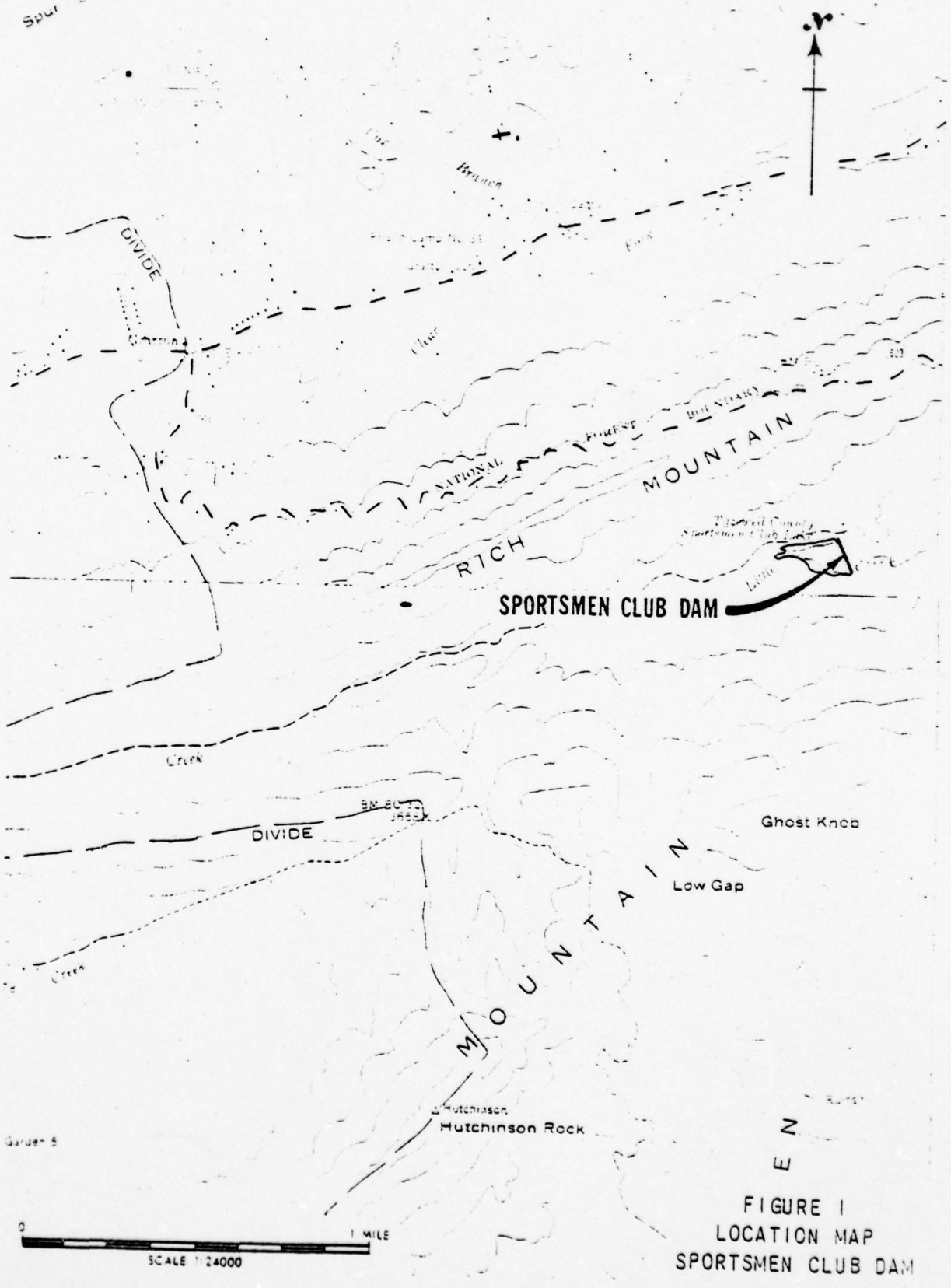


FIGURE 1
LOCATION MAP
SPORTSMEN CLUB DAM

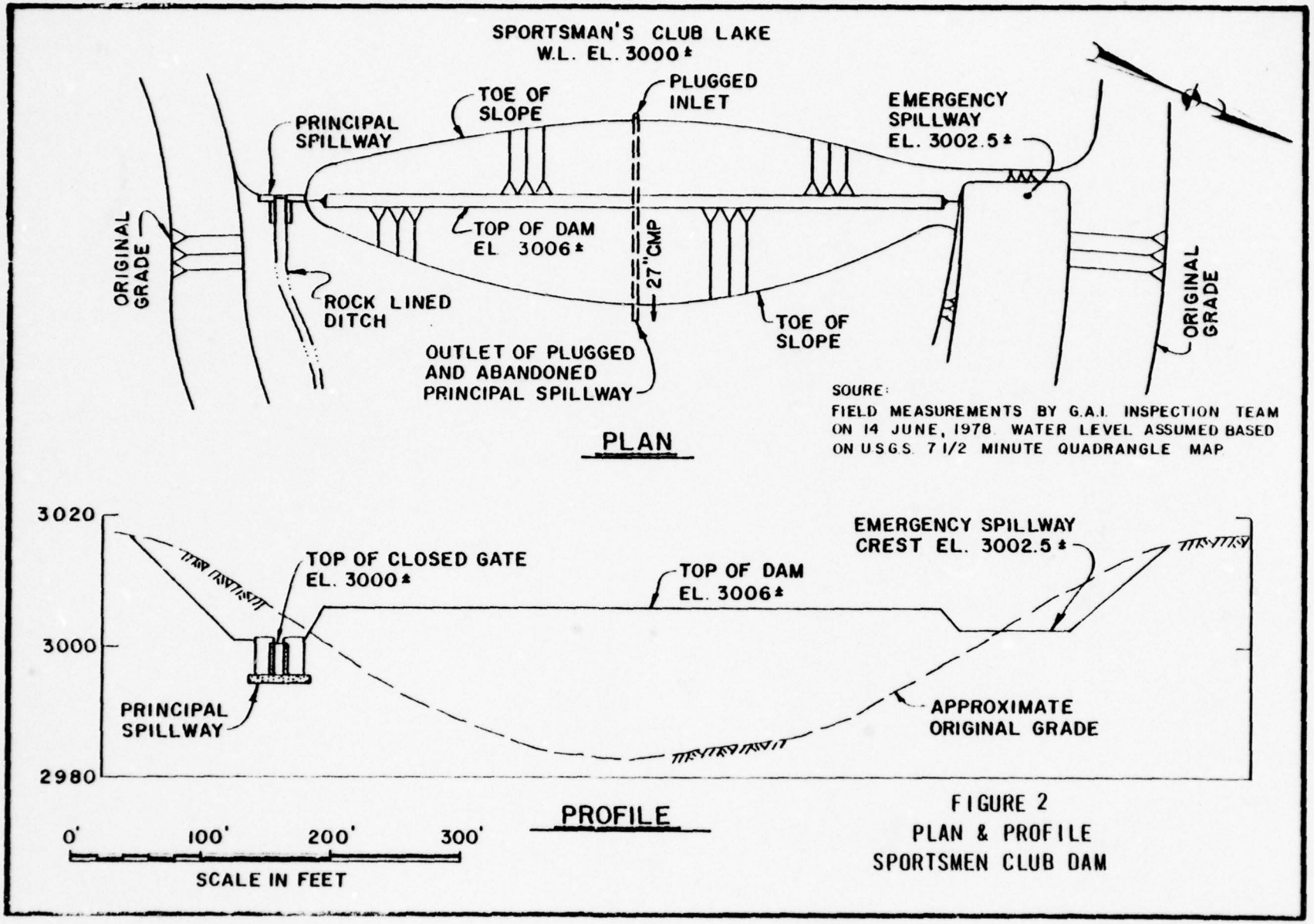
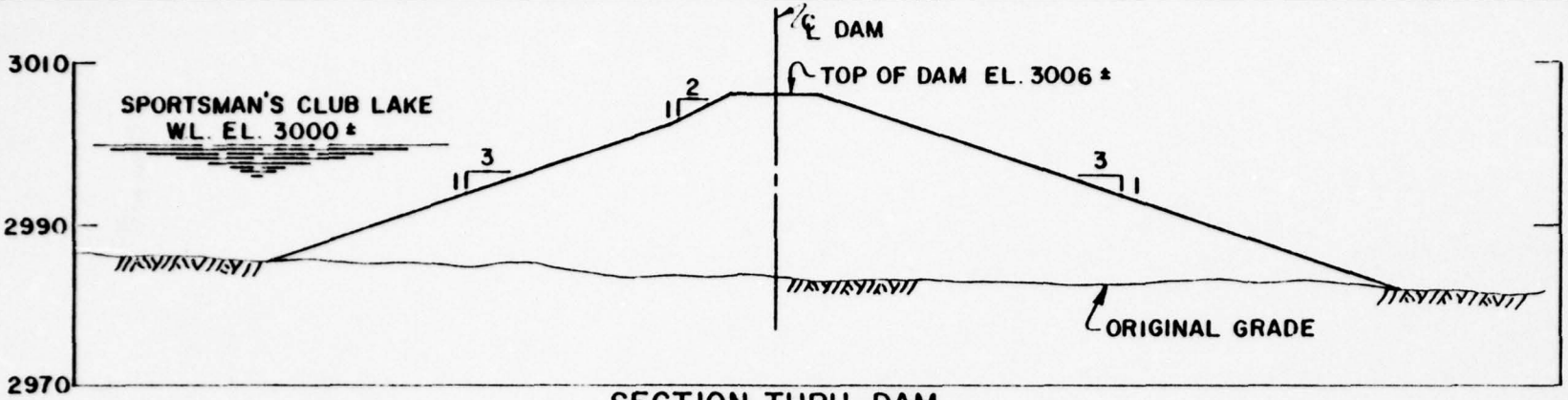


FIGURE 2
PLAN & PROFILE
SPORTSMEN CLUB DAM

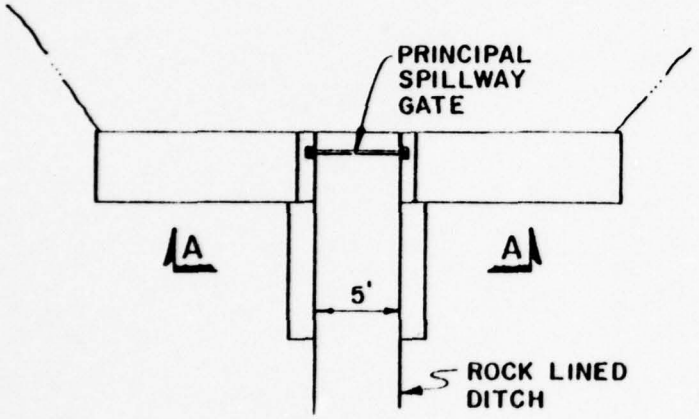


SECTION THRU DAM

0' 10' 20' 30'

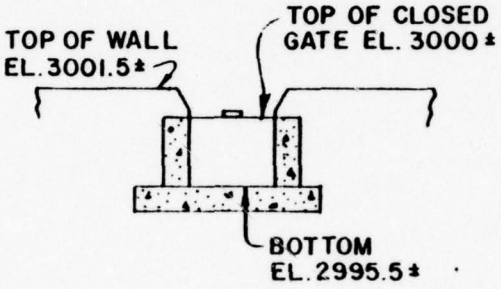
SCALE IN FEET

SOURCE:
FIELD MEASUREMENTS BY G.A.I. INSPECTION TEAM ON 14 JUNE, 1978. WATER LEVEL ASSUMED BASED ON USGS 7 1/2 MINUTE QUADRANGLE MAP.



PRINCIPAL SPILLWAY PLAN

NO SCALE



SECTION A-A

NO SCALE

FIGURE 3
DAM SECTION AND PRINCIPAL SPILLWAY DETAILS
SPORTSMEN CLUB DAM

APPENDIX II

PHOTOGRAPHS

June 1978

SADDLE AREA FORMING EMERGENCY SPILLWAY

June 1978

PRINCIPAL SPILLWAY - NOTE LEAKAGE OVER WING WALL
AT LEFT AND EROSION OF SOIL AT END OF BOTH WING WALLS

June 1978

CREST OF DAM - LOOKING TOWARD PRINCIPAL SPILLWAY

June 1978

RIPRAP ON UPSTREAM SLOPE OF DAM
(NOTE: NORMAL WATER LEVEL WAS HIGHER PRIOR TO USE OF PRINCIPAL SPILLWAY)

APPENDIX III

FIELD OBSERVATIONS

Check List
Visual Inspection
Phase 1

Name Dam: Sportsmen's Club County: Tazewell State: Virginia Coordinators: Norfolk District Corps of Engineers

Date(s) Inspection: 14 June, 1978 Weather: Clear Temperature: 86°F

Pool Elevation at Time of Inspection: 3000± feet m.s.l. Tailwater at Time of Inspection: Not Available

Gilbert Associates, Inc.
Inspection Personnel:

James A. Hagen

Yogesh S. Shah
Nazir A. Qureshi

Also Present:

Eli Jones, Jr. - President, Tazewell County Sportsmen's Club, Inc.
Leonard Lawson - Caretaker, Sportsmen's Club Dam
Buck Arnold - Virginia State Water Control Board

James A. Hagen - Recorder

EMBANKMENT

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
SURFACE CRACKS	None were observed	
UNUSUAL MOVEMENT OR CRACKING AT OR BEYOND THE TOE	None were observed	
SLOUGHING OR EROSION OF EMBANKMENT AND ABUTMENT SLOPES	No sloughing was observed. There was erosion of soil along the upper boundary line of the upstream slope riprap.	The observed erosion is not considered to be posing an immediate hazard condition for the dam. However, the eroded areas must be repaired and provided with riprap protection to prevent future damage.
VERTICAL AND HORIZONTAL ALINEMENT OF THE CREST	There is a depression of 0.2 feet in the soil to the right of the principal spillway. The vegetation on the dam and emergency spillway appear to be adequate.	The area should be properly graded and the surface stabilized.
RIPRAP FAILURES	None - See Erosion above.	

EMBANKMENT

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
JUNCTION OF EMBANKMENT AND ABUTMENT, SPILLWAY AND DAM	The left abutment consists of a low saddle area forming the emergency spillway. This area is mowed and clear of trees. There is a leak at the right abutment. There are visual visual indications that the soil in this area is sandy gravelly soil overlying gently dipping red shale. The flow at the leak was estimated to be 5 g.p.m. or less.	The low head and the apparent nature of the materials used for construction at the junction of the right abutment and the principal spillway indicate this leak does not pose an imminent hazard.
ANY NOTICEABLE SEEPAGE	See above	
STAFF GAGE AND RECORDER	None installed	
DRAINS	Not known	

OUTLET WORKS (Abandoned 27-inch CMP)

Sheet 1

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
CRACKING ANS SPALLING OF CONCRETE SURFACES IN OUTLET CONDUIT	None	
INTAKE STRUCTURE	None	
OUTLET STRUCTURE	Plugged with concrete and inoperable.	
OUTLET CHANNEL	Minor erosion of slopes was noted at previous discharge point.	None
EMERGENCY GATE	None	

UNGATED SPILLWAY

Sheet 1

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
CONCRETE WEIR	The emergency spillway consists of a grass covered, depressed, flat area at the left abutment of the dam.	The area is well maintained.
APPROACH CHANNEL	It appears to be sufficiently wide, gently sloping and adequately protected against erosion.	None
DISCHARGE CHANNEL	Same comments as approach channel.	
BRIDGE AND PIERS	Not applicable	

GATED SPILLWAY

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
CONCRETE SILL	A new principal spillway was recently constructed of concrete with a steel slide gate. The concrete showed no signs of deterioration.	
APPROACH CHANNEL	Some localized erosion at the two upstream corners of the spillway was noted.	Although the erosion does not appear to pose an imminent hazard to the dam, the eroded areas should be regraded properly and the surface stabilized.
DISCHARGE CHANNEL	Some erosion of the downstream channel was noted, especially near the corners of the concrete structure.	Same comments as above for approach channel.
BRIDGE AND PIERS	Not applicable	
GATES AND OPERATION EQUIPMENT	The gate was submerged at the time of our inspection.	

INSTRUMENTATION (None)

Sheet 1

VISUAL EXAMINATION	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
MONUMENTATION/SURVEYS		
OBSERVATION WELLS		
WEIRS		
PIEZOMETERS		
OTHER		

RESERVOIR

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
SLOPES	The slopes are moderately flat and well vegetated. There were no evident slope failures.	
SEDIMENTATION	Not visible	

DOWNSTREAM CHANNEL

Sheet 1

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
CONDITION (OBSTRUCTIONS, DEBRIS, ETC.)	There is a sparce band of trees extending several hundred feet downstream from the dam. Beyond that, the channel is cleared.	None
SLOPES	Gentle slopes, well vegetated.	None
APPROXIMATE NO. OF HOMES AND POPULATION	The 1968 USGS 7-1/2 minute quadrangle map for Cone Creek, Virginia, indicates there are seven dwellings below the pool elevations between the dam and a wide flood plain at Wolf Creek. The estimated population is 28 people.	Any breech would rapidly spread across the downstream channel.

APPENDIX IV

MISCELLANEOUS INFORMATION

Tazewell County Sportsmen's Club, Inc. 33

Tazewell, Virginia 24651

Mr. Hagen,

The Soil Conservation Service does not have the records we talked about. Enclosed is a letter from them.

Eli Jones, Jr.
President

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

P.O. Box 142 - Tazewell, VA 24651

June 19, 1978

Mr. Eli Jones
Chairman, Sportsman Club
Box 487
Tazewell, VA 24651

Dear Mr. Jones:

According to our records the Sportsman Lake was constructed in the late 1950's. Engineering drawings and designs that old have been destroyed.

However, a field investigation on March 6, 1959 found that the riser pipe or pipe spillway is 2.4 feet longer than designed. Therefore, normal water level in the impounded area is 2.4 feet higher than the approved level.

Sincerely,

Joe M. Stewart
District Conservationist

JMS/jc

Note: This was corrected with the new spillway system.

Eli Jones, Jr., President
Tazewell County Sportsmen's Club

APPENDIX V

REFERENCES

APPENDIX V

REFERENCES

1. "HEC-1 Flood Hydrograph Package," Hydrologic Engineering Center, U.S. Army Corps of Engineers, January 1973.

2. Design of Small Dams, U.S. Department of the Interior, Bureau of Reclamation, Second Edition, 1973.

3. "Seasonal Variation of the Probable Maximum Precipitation East of the 105 the Meridian," U.S. Weather Bureau, Hydrometeorological Report No. 33, April 1956.

4. "Rainfall Frequency Atlas of the United States," U.S. Weather Bureau, Technical Paper No. 40, May 1961.

5. Recommended Guidelines for Safety Inspection of Dams, (Washington, D.C. Department of the Army Office of the Chief of Engineers).

APPENDIX VI

CONDITIONS

APPENDIX VI

CONDITIONS

This Report is based on a visual inspection of the dam, a review of available engineering data, and a hydrologic analysis performed during a Phase I investigation as set forth in the U.S. Corps of Engineers' Recommended Guidelines for Safety Inspection of Dams and the contract between the U.S. Corps of Engineers and Gilbert Associates, Inc.

The foregoing inspection, review, and analysis are by their nature limited in scope. It is possible that conditions exist which are hazardous, or which might in time develop into safety hazards, that are not detectable by this inspection, review, and analysis. Accordingly, Gilbert Associates, Inc. cannot and does not warrant or represent that conditions which are hazardous, or which may in time develop into safety hazards, do not exist.