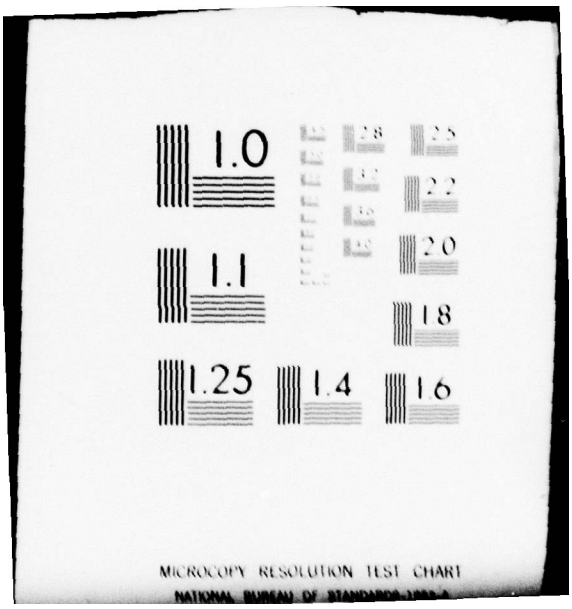
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SKANEATELES LAKE DAM

ONONDAGA COUNTY
NEW YORK

INVENTORY Nº 414

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PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM

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NEW YORK DISTRICT CORPS OF ENGINEERS

SEPTEMBER 1978

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6 **National Dam Safety Program. Skaneateles Lake Dam (NY414), Oswego River Basin, Skaneateles Lake Watershed, Onondaga County, New York. Phase I Inspection Report.**

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Dam Safety
National Dam Safety Program
Visual Inspection
Hydrology, Structural Stability
Skaneateles Lake Dam
Onandaga County
Skaneateles Lake Watershed

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report provides information and analysis on the physical condition of the dam as of the report date. Information and analysis are based on visual inspection of the dam by the performing organization.

Skaneateles Lake Dam was judged to be unsafe-Non Emergency due to a seriously inadequate spillway. Additional investigations and maintenance actions were recommended.

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DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, NEW YORK
26 FEDERAL PLAZA
NEW YORK, NEW YORK 10007

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NANEN-F

Honorable Hugh L. Carey
Governor of New York
Albany, New York 12224

Dear Governor Carey:

The purpose of this letter is to inform you of a clarification of the guidelines used by this office in assessing dams under the National Program of Inspection of Dams.

Office of the Chief of Engineers has recently provided a clarification that dams with seriously inadequate spillways are to be assessed as unsafe, non-emergency, until more detailed studies prove otherwise or corrective measures are completed.

The following dams in your state have previously been assessed as having seriously inadequate spillways, with capability to pass safely only the percentage of the probable maximum flood as noted in each report. They are now to be assessed as unsafe:

I.D. NO.	NAME OF DAM
N.Y. 59	Lower Warwick Reservoir Dam
N.Y. 4	Salisbury Mills Dam
N.Y. 45	Amawalk Dam
N.Y. 418	Jamesville Dam
N.Y. 685	Colliersville Dam
N.Y. 6	Delta Dam
N.Y. 421	Oneida City Dam
N.Y. 39	Croton Falls Dam
N.Y. 509	Chadwick Dam (Plattenkill)
N.Y. 66	Boyds Corner Dam
N.Y. 397	Cranberry Lake Dam
N.Y. 708	Seneca Falls Dam
N.Y. 332	Lake Sebago Dam
N.Y. 338	Indian Brook Dam
N.Y. 33	Lower(S) Wiccopee Dam (Lower Hudson W.S. for Peekskill)

NANEN-F
Honorable Hugh L. Carey

I.D. NO.	NAME OF DAM
N.Y. 49	Pocantico Dam
N.Y. 445	Attica Dam
N.Y. 658	Cork Center Dam
N.Y. 153	Jackson Creek Dam
N.Y. 172	Lake Algonquin Dam
N.Y. 318	Sixth Lake Dam
N.Y. 13	Butlet Storage Dam
N.Y. 90	Putnam Lake (Bog Brook Dam)
N.Y. 166	Pecks Lake Dam
N.Y. 674	Bradford Dam
N.Y. 75	Sturgeon Pool Dam
N.Y. 414	Skaneateles Dam
N.Y. 155	Indian Lake Dam
N.Y. 472	Newton Falls Dam
N.Y. 362	Buckhorn Lake Dam

The classification of "unsafe" applied to a dam because of a seriously inadequate spillway is not meant to connote the same degree of emergency as would be associated with an "unsafe" classification applied for a structural deficiency. It does mean, however, that based on an initial screening, and preliminary computations, there appears to be a serious deficiency in spillway capacity so that if a severe storm were to occur, overtopping and failure of the dam would take place, significantly increasing the hazard to loss of life downstream from the dam.

Consequently, it is advisable to implement the recommendations previously furnished in the reports for the above-mentioned dams as soon as practicable.

It is requested that owners of these dams be furnished a copy of this letter and that copies be permanently appended to all reports previously furnished to you.

Sincerely yours,

CLARK H. BENN
Colonel, Corps of Engineers
District Engineer

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Figure 3 - General Renovation Plan (April 1975)
Figure 4 - Renovation Details (April 1975)

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Previous Inspection Reports/Relevant Correspondence	B
Hydrologic and Hydraulic Computations	C
Stability Analysis	D
References	E

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PHASE I REPORT
NATIONAL DAM SAFETY PROGRAM

Name of Dam Skaneateles Lake Dam NY414

State Located New York
County Located Onondaga
Stream Skaneateles Lake Watershed
Date of Inspection September 14, 1978

ASSESSMENT OF GENERAL CONDITIONS

The Skaneateles Lake Dam is a small masonry structure located on the north end of the lake in the Village of Skaneateles. The overall length of the dam is 150 feet, the height of the dam is 19.5 feet. Since the storage capacity of the dam exceeds 50,000 acre feet, the dam is in the Large Dam Category. The location of residential and commercial properties, immediately downstream of the dam, places the dam in the High Hazard Category. The drainage area of the dam is 72.3 square miles, the lake's surface area is about 13.5 square miles.

This Phase I investigation has determined that the dam is in need of further evaluation. Since the dam is a gravity dam structure, the Corps of Engineer's screening criteria requires a stability analysis of the dam. Due to the limited data available for this Phase I investigation, this analysis could not be performed. It is recommended that the owner locate information of the structure and foundation and provide a stability analysis to amend this report.

Using the Corps of Engineers screening criteria for initial review of spillway adequacy, it has been determined that the dam would be overtopped for all storms exceeding approximately 45% of the PMF. The spillway is, therefore, adjudged as seriously inadequate and the dam is assessed as unsafe, non-emergency.

The classification of "unsafe" applied to a dam because of a seriously inadequate spillway is not meant to connote the same degree of emergency as would be associated with an "unsafe" classification applied for a structural deficiency. It does mean, however, that based on an initial screening, and preliminary computations, there appears to be a serious deficiency in spillway capacity so that if a severe storm were to occur, overtopping and failure of the dam would take place, significantly increasing the hazard to loss of life downstream from the dam.

It is, therefore, recommended that within 2 months from the date of notification to the governor of the State of New York, owners engage the services of a professional consultant to determine by more sophisticated methods and procedures the adequacy of the spillway. Within 12 months of the date of notification to the governor, appropriate remedial mitigating measures should have been completed. In the interim, a detailed emergency operation plan and warning system should be promptly developed. Also, during periods of unusually heavy precipitation, around-the-clock surveillance should be provided.

Other areas of concern have been noted which should receive attention:

1) At least a dozen boats are moored in the upstream spillway channel. These should be removed.

2) Two large boats are located in the entrance channel on the lake. These boats should also be removed.

3) The upstream channel walls/banks should be repaired and stabilized.

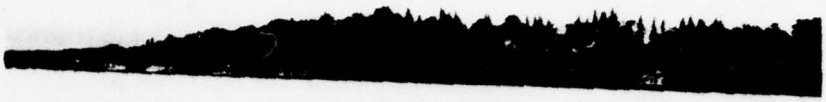


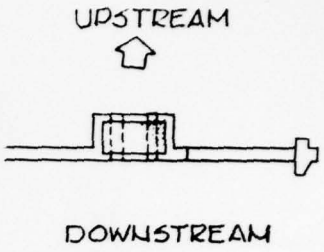
Dale Engineering Company

John B. Stetson, President

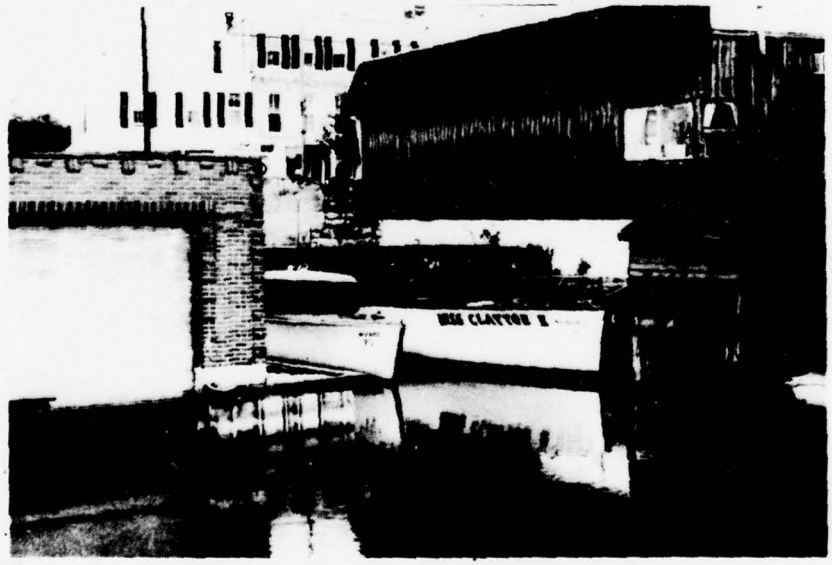
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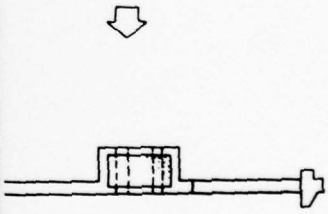
Col. Clark H. Benn
New York District Engineer



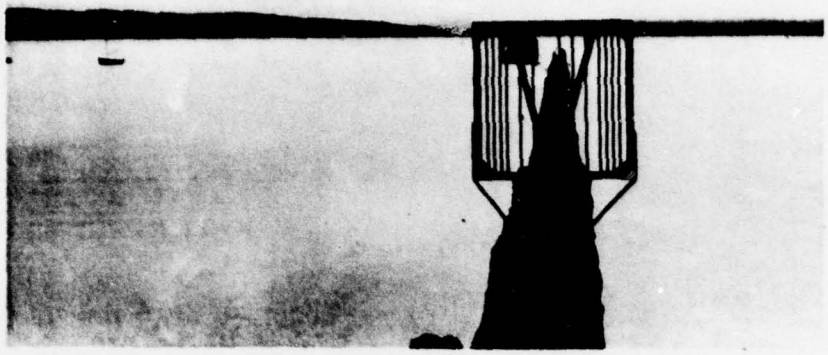


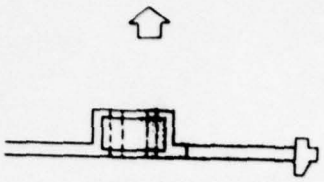
1. View of lake from a location just upstream from dam.



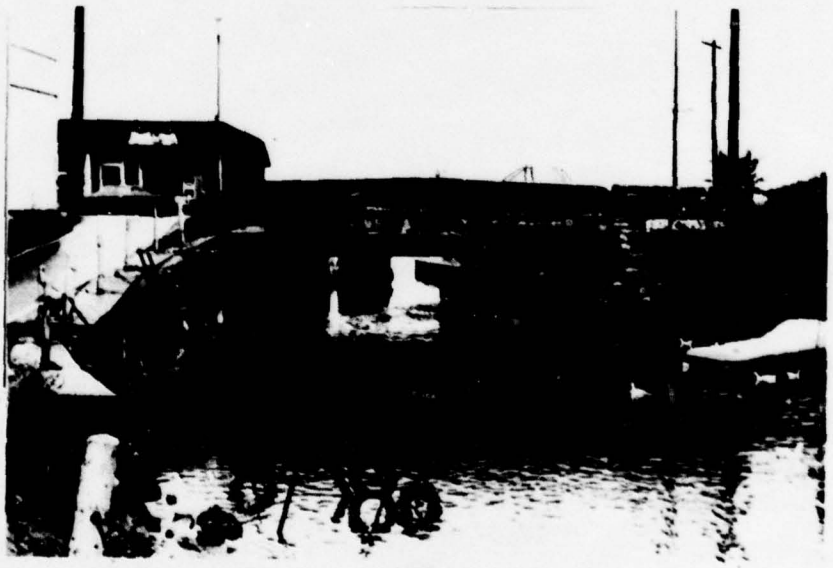


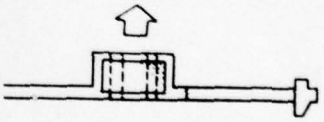
2. The lake flows to the dam through an opening at the location of the two boats through the bridge located behind the boats.



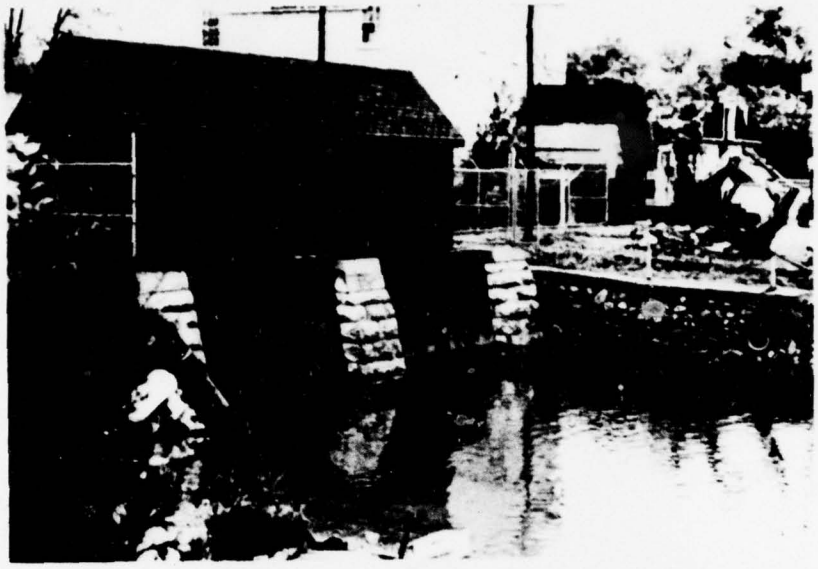


3. View looking outwards towards the lake from location of Picture #2.

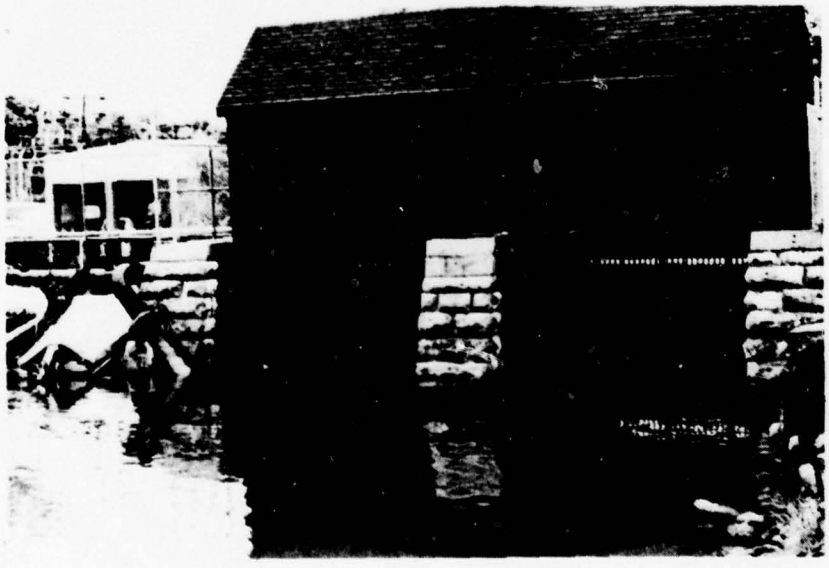




4. View from dam looking towards the lake which is beyond the bridge.

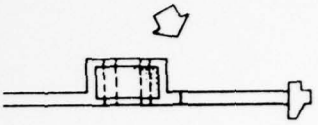


5. View of upstream face of dam. House contains six sluice gates which are each 3 feet square.

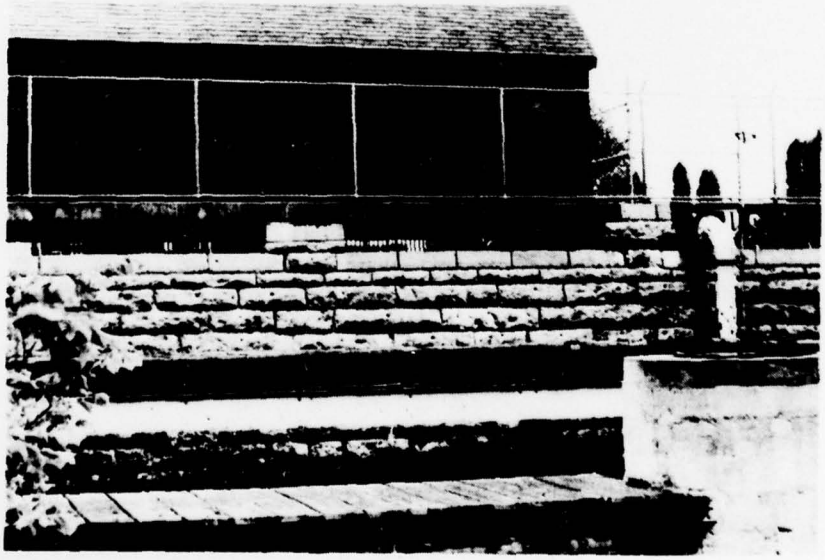


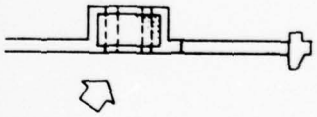
6. Closeup of upstream face showing trash racks and overflow section behind trash racks.



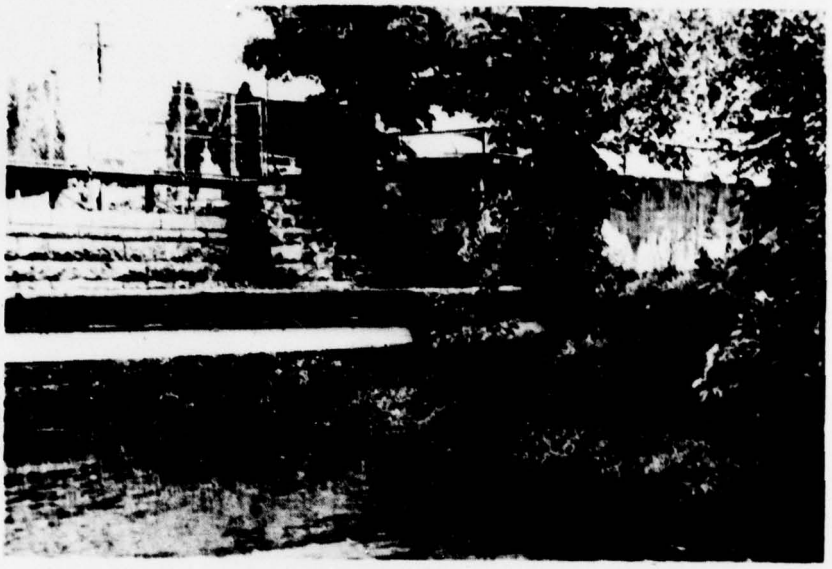


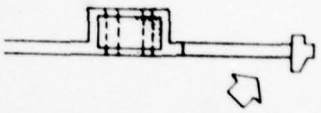
7. Closeup of upstream face of spillway. Boats are illegally moored next to dam.





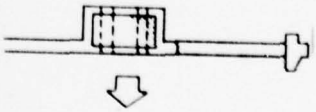
8. Closeup of downstream face of dam.



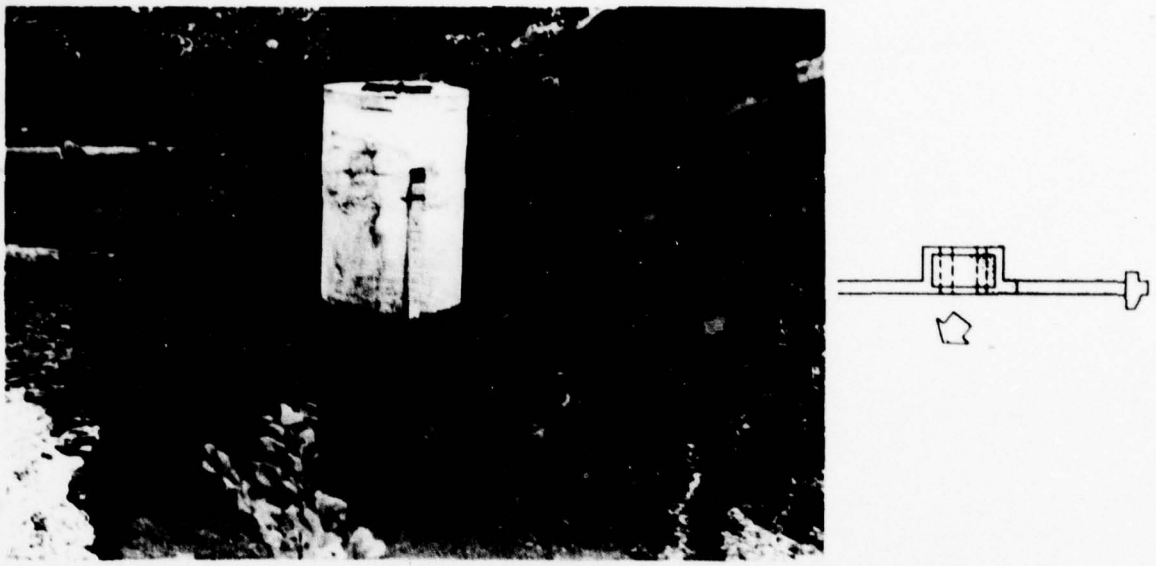


9. Downstream face of spillway which discharges into a small stilling basin in the stream channel.

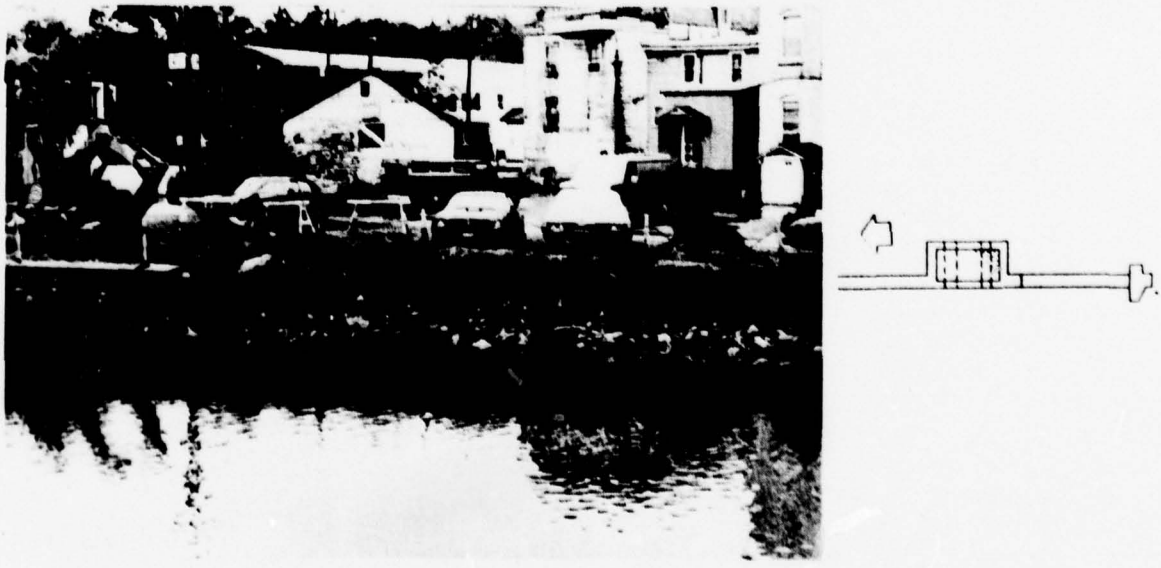




10. Downstream channel immediately below dam. Channel is flat for more than 1/4 mile where it then steepens.



11. Silo located immediately behind dam contains the discharge (sluice gate) metering equipment.



12. Overbank area adjacent to upstream face of dam.

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM
NAME OF DAM - SKANEATELES LAKE ID# - NY414

SECTION 1 - PROJECT INFORMATION

1.1 GENERAL

a. Authority

Authority for this report is provided by the National Dam Inspection Act, Public Law 92-367 of 1972. It has been prepared in accordance with a contract for professional services between Dale Engineering Company and The New York State Department of Environmental Conservation.

b. Purpose of Inspection

The purpose of this inspection is to evaluate the structural and hydraulic condition of the Skaneateles Lake Dam and appurtenant structures, owned by the City of Syracuse, and to determine if the dam constitutes a hazard to human life or property and to transmit findings to the State of New York.

This Phase I inspection report does not relieve an Owner or Operator of a dam of the legal duties, obligations or liabilities associated with the ownership or operation of the dam. In addition, due to the limited scope of services for these Phase I investigations, the investigators had to rely upon the data furnished to them. Therefore, this investigation is limited to visual inspection, review of data prepared by others, and simplified hydrologic, hydraulic and structural stability evaluations where appropriate. The investigators do not assume responsibility for defects or deficiencies in the dam or in the data provided.

1.2 DESCRIPTION OF PROJECT

a. Description of Dam and Appurtenances

The Skaneateles Lake Dam is a masonry dam approximately 115 feet long with a maximum height of approximately 19-1/2 feet. Top width of the dam is 4 feet. The width of the masonry at the base is 6 feet. A dam report conducted by the State of New York Conservation Commission in June 1918 indicates that the dam is founded entirely on gravel. Portions of both the upstream and downstream side of the dam have been filled with earthen material. In the center portion of the dam at the waste gates is not filled. Approximately 80 feet of the length of the dam operates as an overflow weir during extreme high water. The westerly portion of the dam approximately 65 feet long operates as the spillway. A gate house is located in the center of the dam which controls six 3 foot square sluice gates and three

discharge pipes through the dam. The discharge pipes consist of two 24 inch pipes and one 48 inch pipe. These pipes discharge directly the receiving stream just downstream from the dam structure. Flow through these pipes is metered. Access to the flow meter is provided by a stand pipe in the receiving stream just downstream from the dam.

A village water main crosses the stream channel just downstream from the dam.

b. Location

The Skaneateles Lake Dam is located in the Village of Skaneateles, Onondaga County, New York.

c. Size Classification

The maximum height of the dam is approximately 19-1/2 feet. The storage volume of Skaneateles Lake is roughly estimated to be at least 84,500 acre feet, therefore, the storage capacity is estimated to be in excess of 50,000 acre feet. Therefore the dam is in the Large Size Category as defined by the recommended guidelines for Safety Inspection of Dams.

d. Hazard Classification

There are numerous residential properties situated along the banks of the receiving stream. Therefore, the dam is in the High Hazard Category as defined by the recommended guidelines for Safety Inspection of Dams.

e. Ownership

The dam is owned by the City of Syracuse.

f. Purpose of Dam

The dam presently functions to control water levels in Skaneateles Lake. The City of Syracuse operates a water supply intake in Skaneateles Lake.

g. Design and Construction History

The Skaneateles Lake Dam was originally constructed in 1865. Indications are that the dam was reconstructed in approximately 1902. Recent renovations of the dam took place in 1975 when the walkway over the dam was reconstructed.

h. Normal Operational Procedures

The Skaneateles Lake Dam is operated by a full time staff employed by the City of Syracuse which is housed at the site. This staff provides 24 hour surveillance of the structure and operates the controls to maintain lake levels.

1.3 PERTINENT DATA

a. Drainage Area

The drainage area of Skaneateles Lake Dam is 72.3 square miles.

b. Discharge at Dam Site

No discharge records are available for this site.

Computed discharges:

Ungated spillway and gated outlet, top of dam	860 cfs
Ungated spillway, top of dam	500 cfs
Ungated and gated, design flood with lake at 863+	2752 cfs (PMF) 1026 cfs (1/2 PMF)
Ungated spillway, design flood	2763 cfs (PMF) 727 cfs (1/2 PMF)

c. Elevation (feet above MSL)

Top of dam	868.42
Maximum pool - design discharge	871 (PMF) 869 (1/2 PMF)
Spillway crest	865.25
Stream bed at centerline of dam	848.25

d. Reservoir

Length of normal pool	80,000 feet

e. Storage

Normal storage (spillway crest)	84,500 acre feet (rough estimate)
Design surcharge (spillway crest to top of dam)	25,992 acre feet
(normal pool to top of dam)	43,320 acre feet

f. Reservoir Area

Spillway pool	8664 acre

g. Dam

Type - Masonry.
Length - Approximately 150 feet.
Height - 19.5 feet.
Freeboard between normal reservoir and top of dam - 2.5 feet.
Top width - 5 feet.

Side slopes - Upstream - vertical.
Zoning - None.
Impervious Core - None.
Grout Curtain - Grouted in 1975.

h. Spillway

Type - Weir.
Length - 39 feet.
Crest Elevation - 865.92.
Gates - 6 - 3 x 3 foot sluice gates.
U/S Channel - None.
D/S Channel - Natural stream channel.

i. Regulating Outlets

6 - 3 x 3 foot sluice gates. 3 of the gates are metered into a 48 and 24 inch concrete pipe which discharge into the stream immediately below the dam.

SECTION 2 - ENGINEERING DATA

2.1 DESIGN

The information available for review for Skaneateles Lake Dam included:

1) Plans as shown in Figures 2 thorugh 4.

2.2 CONSTRUCTION

No data was available in the construction of the dam.

2.3 OPERATION

See Section 4.

2.4 EVALUATION

In general, the information available has been adequate to perform this Phase I inspection. However, since this is a gravity dam, the guidelines normally require a stability analysis in the phase I report. The investigators could not obtain sufficient data in the time period available to perform this report to prepare a stability evaluation. The City of Syracuse may be able to locate additional documents which could support the preparation of this computation.

SECTION 3 - VISUAL INSPECTION

3.1 SUMMARY

a. General

The visual inspection of the Skaneateles Lake Dam was conducted on September 14, 1978. The dam is located just downstream from U.S. Route 20 which crosses the inlet channel just north of Skaneateles Lake. The dam is surrounded by commercial establishments which are located in the center of the Village of Skaneateles. The impoundment just upstream from the dam is used to moor small rowboats. Just south of the Route 20 bridge two large tour boats were moored in the inlet channel. A stone masonry retaining wall which formed the easterly bank of the channel has collapsed leaving only a 20 foot section of wall remaining immediately adjacent to the dam.

b. Dam

The dam and spillway are in excellent condition. The walkway and gate house across the dam have recently been reconstructed and are also in excellent condition. The receiving pool just downstream from the dam abuts the structure so that no inspection can be made adjacent to the downstream toe. There was no sign of seepage around the abutments of the dam. Minor erosion caused from pedestrian traffic has occurred at the abutments and on the banks of the impoundment just upstream from the dam. Many small boats are moored along the upstream face of the dam. These boats could become lodged in the spillway opening in the event of high water.

c. Spillway

The spillway of the dam is a masonry weir which drops immediately into the receiving stream. The spillway is, like the dam, in excellent condition.

d. Appurtenant Structures

A manhole (silo) is located just downstream from the dam near the center of the receiving stream. This manhole affords access to the metering equipment on the discharge pipes through the structure. This manhole appears to have been recently constructed and is in good condition.

e. Reservoir Area

Skaneateles Lake is heavily developed residentially in both year-round and summer residences. There are no known areas where unstable slopes occur. Sedimentation into the lake is negligible.

f. Downstream Channel

The receiving stream from the lake traverses through the Village of Skaneateles. The channel is in generally good condition but of relatively low flow capacity. The channel is flat and meanders for a quarter of a mile below the dam where it gradient steepens. A number of residential and commercial structures are located along this reach.

SECTION 4 - OPERATIONAL PROCEDURES

4.1 PROCEDURES

The Skaneateles Lake Dam is under full time surveillance by employees of the City of Syracuse who constantly regulate and meter flows from the lake. Lake level is maintained at elevation 863 on June 1 of any operating year. Lake levels are then allowed to recede to elevation 860.5 on approximately September 15 of the operating year to allow for spring thaws in the following year. The City of Syracuse withdraws approximately 58,000,000 gallons per day through their water supply intakes located approximately one mile out into the Lake.

4.2 MAINTENANCE OF THE DAM

The dam is maintained by the City of Syracuse. Full time surveillance assures adequate maintenance of the structure.

SECTION 5 - HYDROLOGY AND HYDRAULICS

5.1 EVALUATION OF FEATURES

The Skaneateles Lake Dam lies at the northern end of Skaneateles Lake. The drainage area of the dam is 72.3 square miles as planimetered from U.S.G.S. quad sheets, the lake is 15.1 miles long with a surface area of 13.5 square miles. The volume of the impoundment is purely a function of the natural watershed. For the dam's location, limited summary type historical information was obtained from the owner on the occurrence of flood events. Going back to 1917, the spillway has reportedly never been topped. Peak stages were recorded on July 1, 1922 and June 24, 1972 with stages of 864.6 and 865.25 from monthly rainfall totals of 10 and 10.7 inches. The spillway crest elevation is 865.25. (The owner reported that the spillway crest is 865.25, the plans indicate 865.90.) Also, no information relevant to the design of the dam was available for this investigation. The original dam was reportedly constructed to augment flows into the barge canal system. Later, the dam was reconstructed to include extra storage capability for water supply purposes. The outlet gates in the dam have a capacity of 240 M.G.D. This analysis was performed based on information obtained from the field inspection, information obtained from the owner, the plans included herein, U.S.G.S. quadrangle mapping and other sources of information and references listed in Appendix E. The hydrologic and hydraulic analysis is provided in Appendix C.

The purpose of this investigation is to evaluate the dam and spillway with respect to their flood control potential and adequacy. This has been assessed through the evaluation of the Probable Maximum Flood (PMF) for the watershed and the subsequent routing of the flood through the reservoir and the dam's spillway system. The PMF event is that hypothetical flow induced by the most critical combination of precipitation, minimum infiltration loss and concentration runoff of a specific location that is considered reasonably possible for a particular drainage area. Since this dam is in the Large Dam Category (due to the impoundment size) and is a High Hazard, the guidelines criteria (Ref. 1) require that the dam be capable of passing the Probable Maximum Flood.

The hydrologic analysis was performed using the unit hydrograph method to develop the flood hydrograph. Due to the limited scope of this Phase I investigation, certain assumptions, based in experience, were used in this analysis and in the determination of the dam's spillway capacity to pass the PMF. This was done with the concept, that if the dam was unable to satisfy this criteria, further refined hydrologic investigations would be required. In preparing the unit hydrograph, both Clark and Snyder coefficients were estimated. For the Clark Method, values of Tc = 8.50 and R = 8.50 were computed. The values of R/(Tc + R) was estimated at 0.50 for the analysis. For the Snyder Method, values of Tp = 9.85 and Cp = 0.625 were computed. The

two unit hydrographs were developed from these parameters as well as two sets of PMF hydrographs. The resulting two PMF hydrographs developed from the two methods were then compared and evaluated. The PMF hydrograph was determined using the Probable Maximum Precipitation rainfall data obtained in Hydrometeorological Report No. 33. An index rainfall of 21.1 inches for 200 square miles for a period of 24 hours was used in the analysis. Base flow for the basin was assumed to be 2 cubic feet per second per square mile, while loss rates were set at 1.0 inches initial abstraction and 0.1 inches/ hour continuous loss rate. The loss rate functions for the basin yielded 16.75 inches of runoff from 20.04 inches of precipitation. The flood surcharge storage effect from the lake was assumed to vary linearily with the spillway elevation surface area (the lake's spillway elevation surface area times the surcharge depth yeilds storage - See Sheet C-4). In Case I only the service spillway was evaluated to pass the PMF hydrograph, with the other gates assumed to be either closed or not functionable. Since there is a dam keeper at the site on a full-time basis additional runs were made, in Case II, with the gates open and with the lake 2 feet below the spillway. The old dam spillway was at elevation 863.27 and it is reported that the owner of the dam tries to keep the lake at this elevation so that it does not flood low lying residents on the lake. The spillway capacity, (up to the top of the dam elevation) considering the service spillway, only was estimated at 500 cfs in Case I. With the gates open this amounts to 860 cfs in Case II. This was based on an effective spillway length of 39 feet with a discharge coefficient of 3.2. The overflow openings in the gatehouse were not considered in either Case I or Case II (this capacity amounts to upwards of 100 cfs). The elevation of the lake was assumed to be at the spillway crest (elevation 865.25) at the initiation of the Case I flood event.

The U. S. Army Corps of Engineers, Hydrologic Engineering Center's Computer Program HEC-1 using the Modified Puls Method for flood routing was used to evaluate the dam and spillway capacity. The results of this analysis are shown below:

HEC-1 PMF ANALYSIS

	CASE I - SERVICE SPILLWAY ONLY				CASE II W/GATES	
	CLARK'S METHOD		SNYDER'S METHOD		CLARK'S METHOD	
Percent Of PMF	Run-off Discharge (CFS)	Routed Discharge (CFS)	Run-off Discharge (CFS)	Routed Discharge (CFS)	Run-off Discharge (CFS)	Routed Discharge (CFS)
10	5006	138	4483	138	5006	253
20	10011	277	8967	276	10011	506
30	15017	422	13450	420	15017	739
40	20022	574	17933	572	20022	882
50	25028	727	22416	724	25028	1026
60	30034	997	26900	990	30034	1227
70	35039	1281	31383	1273	35039	1497
80	40045	1625	35066	1604	40045	1766
100	50056	2763	44833	2733	50056	2752

Based on the above results, the spillway is capable of passing only 40% of the PMF. Since this value is less than 50% according to the guidelines, the spillway is deemed to be severely inadequate. (Note that adding in the additional overflow capability through the gate house would bring this capability up to 45% of the PMF.) This analysis indicates the dam would be overtopped by approximately 3 feet with the PMF. A more indepth study in regards to the evaluation of the spillway capacity is therefore recommended. If futher analysis confirms these Phase I investigation results that the spillway is inadequate, it is then recommended that the owner modify the structure to provide for additional spillway capacity.

The existing condition with at least a dozen boats moored in the upstream spillway channel certainly lessens the dams spillway capacity to a level below that evaluated in this analysis. It is recommended that these boats be cleared from this area immediately.

SECTION 6 - STRUCTURAL STABILITY

6.1 EVALUATION OF STRUCTURAL STABILITY

a. Visual Observations And Data Review

The dam structure is one which is comparatively limited in size (on the order of 20 feet total height and a 150 foot length), having been located in a narrow outlet channel at the north end of Skaneateles Lake. The channel and dam is located within the highly developed commercial-residential area of Skaneateles Village. The dam structure shows no indication of misalignment, settlement, or other structural movement. Masonry visible in the various upstream and downstream faces of the dam is in good condition (it is understood renovation/repair to the gate house and dam masonry was recently performed). The condition of channel walls immediately upstream of the dam (some of the length is stone wall, other locations are sloped earth banks with varying amounts of riprap) varies from fair to poor. Some deterioration of the masonry wall and riprap areas has occurred, along with some erosion. A number of small boats (rowboat class) are kept moored along the channel and spillway banks (Photograph No. 7). A highway bridge for the Village's Main Street (Route 20) located a short distance up channel from the dam has a limited passage width for flow from Skaneateles Lake to the dam channel (Photograph No. 4). Large boats are moored in the channel area immediately south of this bridge (Photograph No. 2).

No evidence of seepage through the dam or around the abutment locations was noted. Some depth of water exists in the receiving stream below the downstream side of the dam, a condition which masks evidence of any foundation seepage. There was observed to be one location of an underwater streambed, discharge a short distance below the dam's downstream face, but it was not ascertained if this discharge was flowing from a pipe from the sluice gate metering equipment facility (Photograph No. 11) or other source. No significant stream bed erosion or effect on the dam structure could be related to the observed occurrence.

b. Geology and Seismic Stability

The State report of June 14, 1918 indicates the foundation for this dam is gravel material. Such description does not indicate whether the gravel is glacial till, which is relatively impervious, or a glacio-fluviatile gravel, which may be very permeable. Rock outcrops in the area of the dam site were not observed. The New York State Geologic Map (1970) indicates the bedrock in this area would be the Devonian Skaneateles Formation. Depending upon the depth of rock removal, (due to glacial erosion) the rock beneath the dam site would be either shale of the Delphi Station or Pompey member of the Skaneateles Formation.

The New York State Geologic Map (1970) does not show any fault traces for this region. The Preliminary Brittle Structures Map of New York (1977) does show a lineament following the trend of the lake and extending north of the lake. This lineament may be due to glacial erosion, although a hidden fault is possible. Smith (1935) does refer to several small faults in the region but does not indicate the presence of any in the vicinity of the dam.

This area is located in Zone 2 of the Seismic Probability Map. Earthquakes of low intensity are possible for the area.

Earthquakes recorded for the area are tabulated below:

Date	Intensity-Modified Mercalli	Location Relative to Dam
1925	III	17 mi. ENE
1927	IV	17 mi. ENE
1927	III	17 mi. ENE
1945	III	4 mi. NNE
1952	III	6 mi. SW
1954	IV	12 mi. NW

c. Data Review and Stability Evaluation

Reportedly, this dam was originally constructed in the 1890's. Design drawings available for review in this study have been limited to those dated 1975 which relate to renovation-repair for the gate house and underlying masonry section. These drawings generally indicate a wood timber foundation exists for the dam masonry but are unclear as to elevations of the foundation base and dimensioning of the dam's foundation and cross sections. These items are necessary for calculating lateral and uplift water pressures acting on the dam structure, and evaluating the stability of the dam in regard to overturning and sliding effects. Consequently, stability analysis have not been completed.

Corrective measures for this facility should include repair and stabilization of the upstream channel walls/banks to prevent erosion and accumulation of debris from developing in storm and high water periods, a condition which could effect the passage of flow through the dam's trash racks and over the spillways. Similarly, it appears that the presence of boats in the upstream channel, both at the north and south sides of the Highway Route 20 Bridge a short distance upstream of the dam, will present a hazard to lake channel flow in storm periods. These boats should be removed.

SECTION 7 - ASSESSMENT/REMEDIAL MEASURES

7.1 DAM ASSESSMENT

This Phase I investigation has determined that the dam is in need of further evaluation. Since the dam is a gravity dam structure, the Corps of Engineer's screening criteria requires a stability analysis of the dam. Due to the limited data available for the Phase I investigation, this analysis could not be performed.

Reportedly, this dam was originally constructed in the 1890's. Design drawings available for review in this study have been limited to those dated 1975 which related to renovation-repair for the gate house and underlying masonry section. These drawings generally indicate a wood timber foundation exists for the dam masonry but are unclear as to elevations of the foundation base and dimensioning of the dam's foundation and cross sections. These items are necessary for calculating lateral and uplift water pressures acting on the dam structure, and evaluating the stability of the dam in regard to overturning and sliding effects. Consequently, stability analysis have not been completed.

The main area of concern is that the spillway has been found to be seriously inadequate, since it can pass only 45 percent of the Probable Maximum Flood (PMF). The spillway capacity is 860 cfs with the outlet gates and uncontrolled spillway taken into account. Since the dam site is staffed full-time, based on previous reports on the operation of the gates during prior storm events, the additional capacity of 360 cfs through the gates has added to the report.

Apparently, it has not been the practice of the owner of the dam or the Village of Skaneateles to restrict boats from being moored in the entrance channel and in the spillway area. This unsafe condition during a severe flood event could manifest itself in a number of ways. The boats moored at the entrance channel could be swept into the bridge channel clogging up the channel and restricting flows to the dam. The boats in the spillway area could clog up the spillway and the sluice gate inlets also restricting flows through the dam. The high flow velocities in the spillway area could also release the boats and other floatables into the downstream area where they could carom into structures and/or lodge in downstream bridge openings.

7.2 REMEDIAL MEASURES

The following investigative work and remedial measures are recommended:

1) Further analysis of the dam's spillway capacity is recommended to refine the computations provided herein. Since the spillway has been found to be seriously inadequate, it is recommended that the owner take immediate action to provide round-the-clock

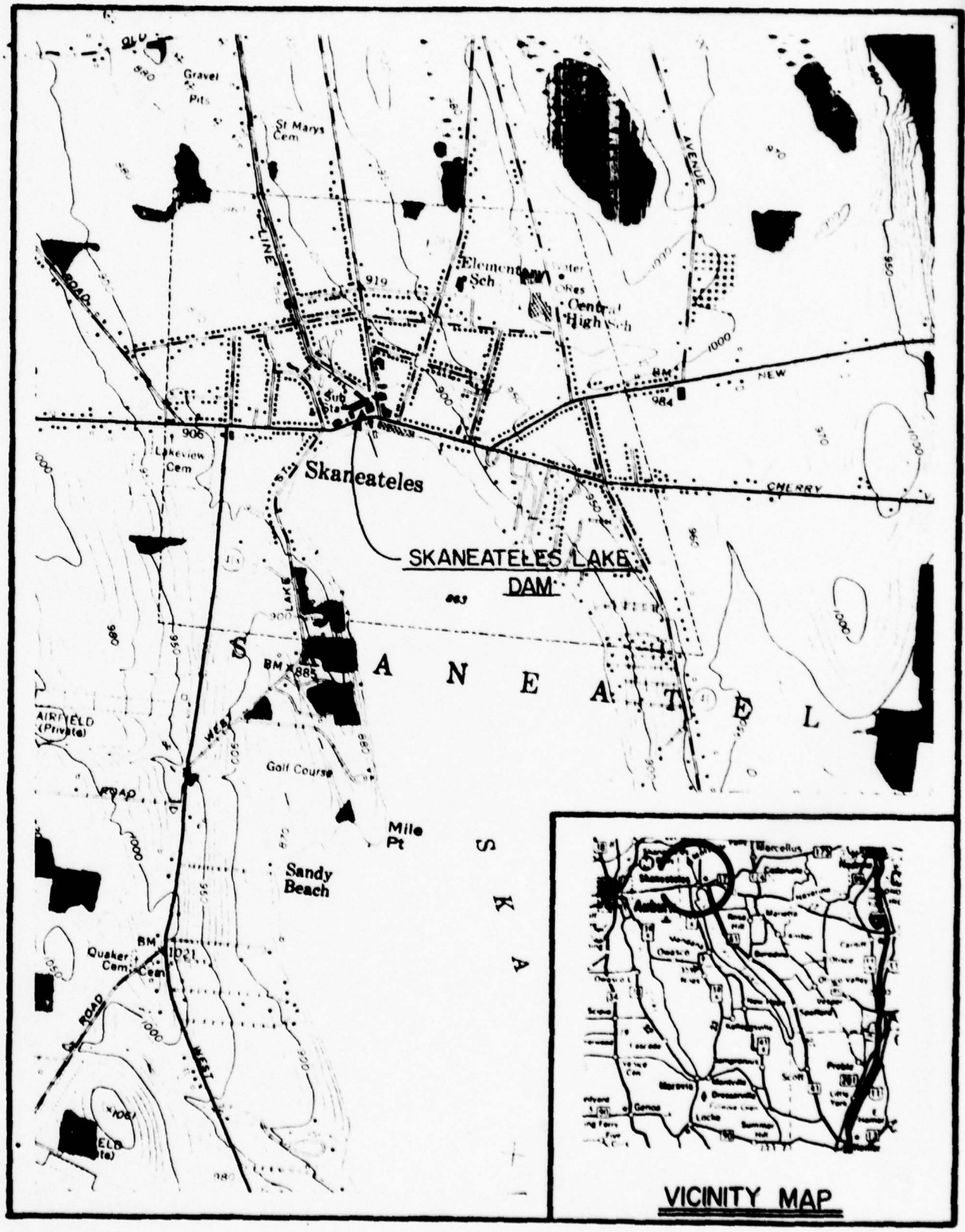
surveillance during periods of unusually high runoff and have a contingency plan in the event of dam overtopping.

2) It is recommended that the owner locate information of the structural foundation and provide a stability analysis to amend this report.

3) At least a dozen boats are moored in the upstream spillway channel. These should be removed.

4) Two large boats are located in the entrance channel on the lake. These boats should also be removed.

5) The upstream channel walls/banks should be repaired and stabilized.



LOCATION PLAN

FIGURE 1

CITY OF SYRACUSE

ONONDAGA COUNTY, NEW YORK

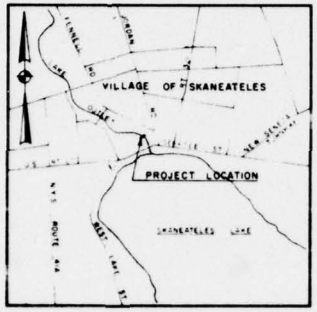
RENOVATION OF SKANEATELES DAM

RECEIVED

MAYOR
LEE ALEXANDER

SYRACUSE COMMON COUNCIL
NEAL P MC CURN PRESIDENT
ROBERT E WARR
JAMES P MC CARTHY
RONALD M MONSOUR
RICHARD A GRUDZINSKI
VINCENT A O'NEIL
JAMES C TORMEY, JR
ARMOND J MAGNARELLI
WALTER J LUDOVICO

CITY ENGINEER
HARRY ROOK PE



LOCATION PLAN

APPROVED BY
CITY ENGINEER DATE

APPROVED BY
SUPT. OF WATER DATE

APPROVED BY
COMMISSIONER OF FINANCE DATE

ORDERED BY COMMON COUNCIL
CITY CLERK DATE

ADVANCE PRINT

PREPARED BY HONEYWELL ENGINEERS, P.C.
WATER DEPT. DATE

FIGURE 2

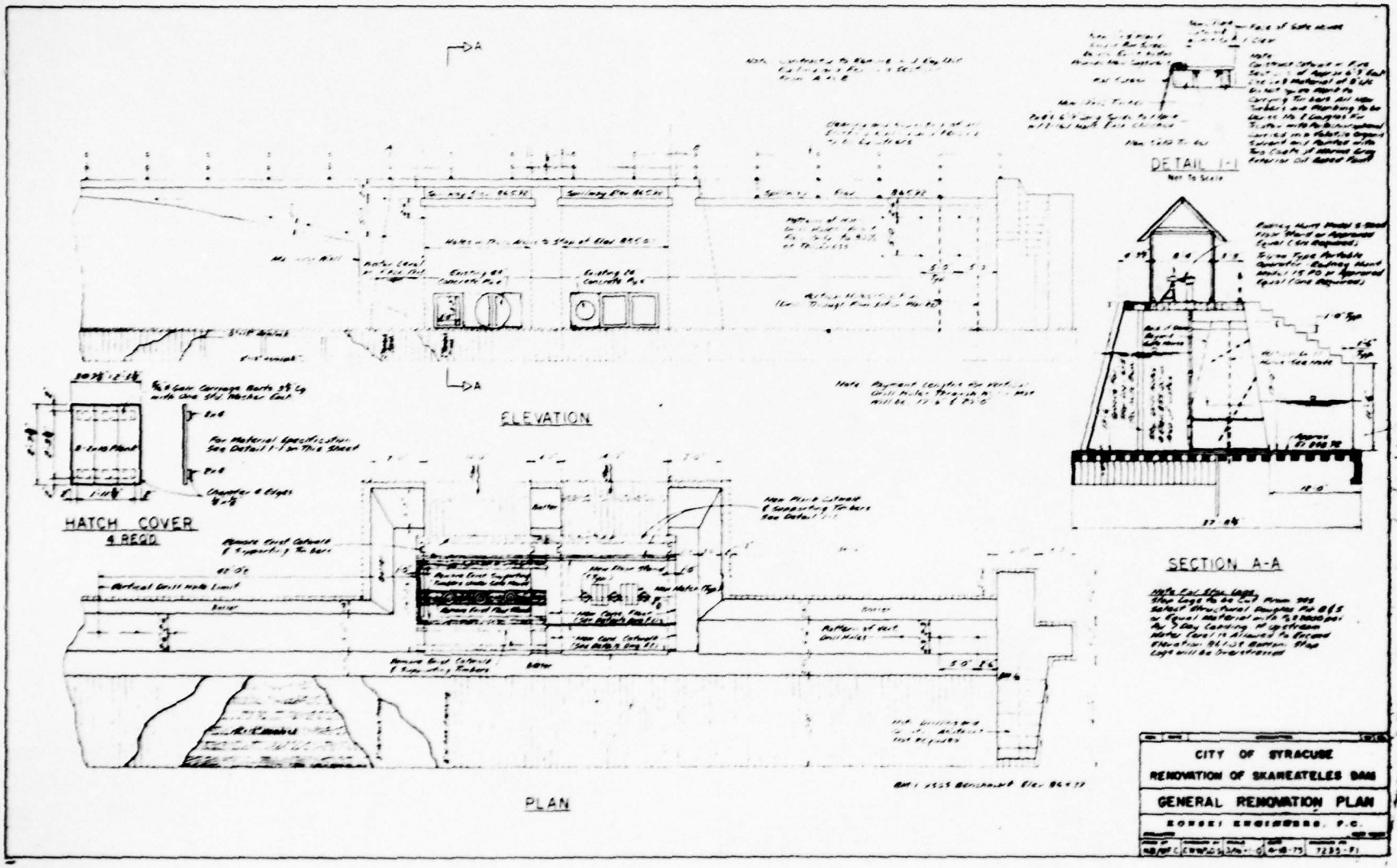

ELEVATION
PLAN
DETAIL 1-1
Not To Scale
SECTION A-A
HATCH COVER
4 REQD.
CITY OF SYRACUSE
RENOVATION OF SKANEATELES DAM
GENERAL RENOVATION PLAN
RONSKI ENGINEERS, P.C.

FIGURE 3

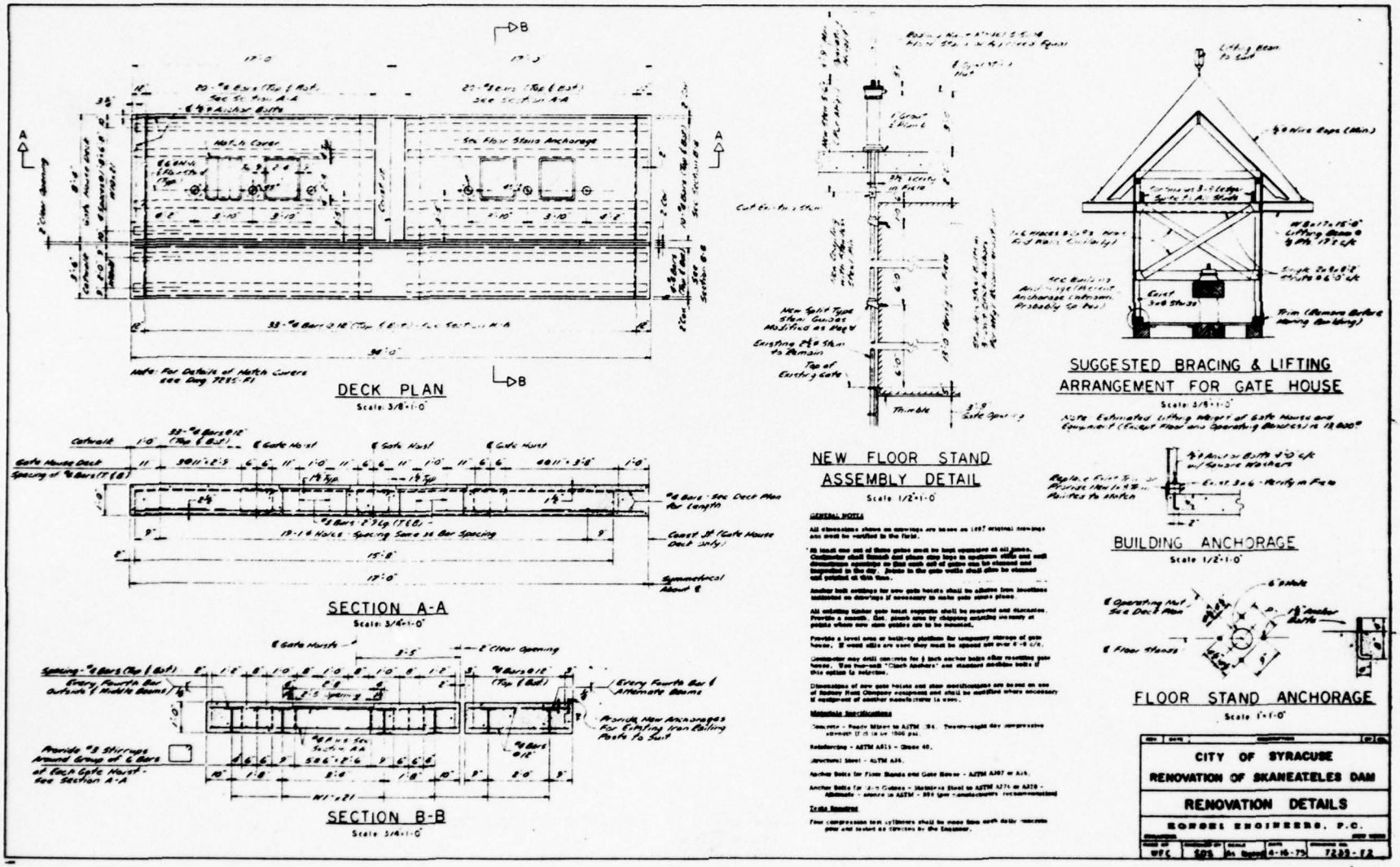

DECK PLAN
Scale: 3/8"=1'-0"
SECTION A-A
Scale: 3/4"=1'-0"
SECTION B-B
Scale: 3/4"=1'-0"
NEW FLOOR STAND ASSEMBLY DETAIL
Scale 1/2"=1'-0"
SUGGESTED BRACING & LIFTING ARRANGEMENT FOR GATE HOUSE
Scale 3/8"=1'-0"
BUILDING ANCHORAGE
Scale 1/2"=1'-0"
FLOOR STAND ANCHORAGE
Scale 1"=1'-0"
CITY OF SYRACUSE
RENOVATION OF SKANEATELES DAM
RENOVATION DETAILS
SONSEL ENGINEERS, P.C.

FIGURE 4

APPENDIX A

FIELD INSPECTION REPORT

CHECK LIST
VISUAL INSPECTION

PHASE 1

Name Dam SKANEATELES County ONONDAGA State NEW YORK ID # 414

Type of Dam MASONRY Hazard Category HIGH

Date(s) Inspection SEPT. 14, 1978 Weather CLOUDY, WINDY Temperature 65° F.

Pool Elevation at Time of Inspection 859.5 M.S.L. Tailwater at Time of Inspection 853.6

Inspection Personnel:

N. F. DUNLEVY	DALE ENGINEERING COMPANY	
F. W. BYSZEWSKI	DALE ENGINEERING COMPANY	
H. MUSKATT	DALE ENGINEERING COMPANY	
D. F. McCARTHY	DALE ENGINEERING COMPANY	

N.F. DUNLEVY/F.W. BYSZEWSKI Recorders

CONCRETE/MASONRY DAMS

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
ANY NOTICEABLE SEEPAGE	Tailwater at base of dam. No observation of seepage.	Dam is fenced in and is not accessible to public (see plans).
STRUCTURE TO ABUTMENT/EMBANKMENT JUNCTIONS	Good condition. Minor erosion due to pedestrian traffic.	
DRAINS	Not applicable.	
WATER PASSAGES	None.	
FOUNDATION	No observation.	In the last three years the dam has been grouted.

CONCRETE/MASONRY DAMS

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
SURFACE CRACKS CONCRETE SURFACES	None.	
STRUCTURAL CRACKING	None.	
VERTICAL & HORIZONTAL ALIGNMENT	Good.	
MONOLITH JOINTS	None observed.	
CONSTRUCTION JOINTS	None observed.	
STAFF GAGE OF RECORDER	(See notes for tailwater elev.)	

EMBANKMENT

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
SURFACE CRACKS	Not applicable.	
UNUSUAL MOVEMENT OR CRACKING AT OR BEYOND THE TOE	Not applicable.	
SLOUGHING OR EROSION OF EMBANKMENT AND ABUTMENT SLOPES	Not applicable.	
VERTICAL AND HORIZONTAL ALINEMENT OF THE CREST	Not applicable.	
RIPRAP FAILURES	Not applicable.	

EMBANKMENT

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
JUNCTION OF EMBANKMENT AND ABUTMENT, SPILLWAY AND DAM	Not applicable.	
ANY NOTICEABLE SEEPAGE	Not applicable.	
STAFF GAGE AND RECORDER	Not applicable.	
DRAINS	Not applicable.	

UNGATED SPILLWAY

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
CONCRETE WEIR (Masonry)	Good condition.	
APPROACH CHANNEL	Obstructed by boats. Both south of Genesee St. Bridge and immediately in front of dam.	Genesee St. Bridge is 150 feet south of dam.
DISCHARGE CHANNEL	Stable. A number of pipes, mostly water mains and storm sewers, either cross or discharge into the stream.	
BRIDGE AND PIERS	Newly reconstructed; in excellent condition.	

GATED SPILLWAY

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
CONCRETE SILL (Masonry)	Good condition.	
APPROACH CHANNEL	Trash racks are clear.	
DISCHARGE CHANNEL	Clear. Submerged discharge immediately below dam into a stilling basin area in the existing stream channel.	
BRIDGE AND PIERS	Good condition; newly constructed.	
GATES AND OPERATION EQUIPMENT	New; replaced 1975.	

OUTLET WORKS

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
CRACKING AND SPALLING OF CONCRETE SURFACES IN OUTLET CONDUIT	None observed. Outlet pipes are submerged.	
INTAKE STRUCTURE	Built into center of dam which is in good condition.	
OUTLET STRUCTURE	Submerged pipe.	
OUTLET CHANNEL	Good condition. All channels described in this inspection report are the same channel.	
EMERGENCY GATE	None.	

DOWNSTREAM CHANNEL

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
CONDITION (OBSTRUCTIONS, DEBRIS, ETC.)	Clear.	This channel does not have high discharge capacity. The 60 sq. mi. basin requires a high amount of reservoir storage.
SLOPES	Steep; stable.	
APPROXIMATE NO. OF HOMES AND POPULATION	At least six homes are located close to stream with yards 2-3 feet above stream, home first floor 4 ft. ±. These are located 1/4 - 1/2 mile downstream.	The channel steepens further down stream which was not investigated.

INSTRUMENTATION

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
MONUMENTATION/SURVEYS	None.	
OBSERVATION WELLS	None.	
WEIRS	None.	
PIEZOMETERS	None.	
OTHER		

RESERVOIR

VISUAL EXAMINATION OF	OBSERVATIONS	REMARKS OR RECOMMENDATIONS
SLOPES	Large recreational lake.	
SEDIMENTATION	Minor.	

CHECK LIST
ENGINEERING DATA
DESIGN, CONSTRUCTION, OPERATION
PHASE 1

NAME OF DAM Skaneateles Lake Dam

ID # N.Y. 414

ITEM	REMARKS
AS-BUILT DRAWINGS	None.
REGIONAL VICINITY MAP	See this report.
CONSTRUCTION HISTORY	Original dam built 1865 according to DEC Dam Report 573-B dated June 14, 1918.
TYPICAL SECTIONS OF DAM	See this report.
OUTLETS - PLAN - DETAILS - CONSTRAINTS - DISCHARGE RATINGS	See this report.
RAINFALL/RESERVOIR RECORDS	None.

ITEM	REMARKS
DESIGN REPORTS	No data on original design. DEC has 1975 plans and specs on work to grout foundation, ~~stall~~ install new decking and removal of an an old dam.
GEOLOGY REPORTS	None.
DESIGN COMPUTATIONS HYDROLOGY & HYDRAULICS DAM STABILITY SEEPAGE STUDIES	None.
MATERIALS INVESTIGATIONS BORING RECORDS LABORATORY FIELD	None.
POST-CONSTRUCTION SURVEYS OF DAM	None.
BORROW SOURCES	None.

ITEM	REMARKS
MONITORING SYSTEMS	None.
MODIFICATIONS	See this report.
HIGH POOL RECORDS	No data.
POST CONSTRUCTION ENGINEERING STUDIES AND REPORTS	No data.
PRIOR ACCIDENTS OR FAILURE OF DAM DESCRIPTION REPORTS	No data.
MAINTENANCE OPERATION RECORDS	Some information may be obtained from City of Syracuse.

ITEM	REMARKS
SPILLWAY PLAN SECTIONS DETAILS	See this report.
OPERATING EQUIPMENT PLANS & DETAILS	See this report.

CHECK LIST
HYDROLOGIC & HYDRAULIC
ENGINEERING DATA

DRAINAGE AREA CHARACTERISTICS: 72.3 sq. mi.

ELEVATION TOP NORMAL POOL (STORAGE CAPACITY): 863

ELEVATION TOP FLOOD CONTROL POOL (STORAGE CAPACITY): 865.25

ELEVATION MAXIMUM DESIGN POOL: --

ELEVATION TOP DAM: 868.42

CREST:

a. Elevation 865.25
b. Type Masonry Weir
c. Width 5 Ft.
d. Length 39 Ft.
e. Location Spillover West End
f. Number and Type of Gates

OUTLET WORKS:

a. Type (6) Sluice Gates
b. Location Center of dam, low level
c. Entrance Inverts 848.92
d. Exit Inverts 848.92
e. Emergency Draindown Facilities These sluice gates.

HYDROMETEOROLOGICAL GATES:

a. Type None
b. Location
c. Records

MAXIMUM NON-DAMAGING DISCHARGE: ----

APPENDIX B

PREVIOUS INSPECTION REPORTS

AND CORRESPONDENCE

McCARTHY BUILDING
113 E. ONONDAGA STREET
SYRACUSE, NEW YORK 13202
(315) 471-2101
CABLE ADDRESS KONENGRS

JAMES L. KONSKI, P.E.

WILLIAM H. HUGHES, P.E.
CHARLES W. WOOD, P.E.
S. DAVIS STINSON, P.E.
ASSOCIATES

KONSKI ENGINEERS, P.C.

PLANNING, DESIGN, AND CONSTRUCTION INSPECTION
BRIDGES AND HIGHWAYS
PARKING FACILITIES
INDUSTRIAL STRUCTURES
PHOTOGRAMMETRY, MAPPING
DAMS, AIRPORTS, SOLID WASTE
WATER AND SEWAGE SYSTEMS
BICYCLE FACILITIES
INVESTIGATIONS AND REPORTS

May 2, 1975

New York State Department of
Environmental Conservation
Environmental Analysis Unit
Region 7
P. O. Box 1169, Fisher Avenue
Cortland, New York 13045

RECEIVED
MAY - 8 1975
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
REGION NO. 7
LOCAL PERMIT AGENT

Attention: Mr. Robert J. Harding,
Associate Aquatic Biologist

PROJECT NO. 7235
CITY OF SYRACUSE DAM
AT SKANEATELES, NEW YORK

Gentlemen:

We are transmitting herewith for your review and approval five (5) advance sets (3 sheets per set) of the plans and specifications relative to the above project.

The project is for renovation of the existing stone masonry dam owned by the City of Syracuse and located on the outlet to Skaneateles Lake approximately two hundred (200) feet north of the Genesee Street Bridge in the Village of Skaneateles.

No structural or hydraulic modifications to the dam or appurtenances are involved. There would therefore appear to be no cause for any change in the flow characteristics of the lake or stream.

New York State Department of Environmental Conservation

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
RECEIVED
MAY 14 1975
OFFICE OF ENVIRONMENTAL ANALYSIS

TO: Lou Concra
FROM: A. Coburn
SUBJECT: Project No. 7235, City of Syracuse Dam at Skaneateles, New York
DATE: May 12, 1975

The enclosed contract document and drawing (one set) have been received at the Cortland office.

As the transmittal letter (copy attached) indicates, no structural or hydraulic modifications and no applications for a permit were included. It would be appreciated if you would review the documents and let us know of your requirements, if any.

A. A. Coburn
Project Review Engineer

AAC:jwc
Enc.

Kolak – file

A. Coburn
S. Zeccolo
Project No. 7235, City of Syracuse Dam at Skaneateles, NY

May 16, 1975

No permit will be necessary for this work. You may send them a letter nofifying them to proceed with this work. The plans and specifications that you have sent us will be transmitted to the appropriate dam file for this structure.

SJZ:scs

The proposed scope of work includes joint repair, pressure grouting, new concrete floor in gatehouse and portion of catwalks, reconditioning of existing control gates and installation of new stems, and new crank operated floor stands.

The City is anticipating a Spring 1975 letting of this project. Please feel free to call us if we can be of any assistance in expediting this project.

Sincerely yours,

KONSKI ENGINEERS, P. C.

James L. Konski

CWW:dmp

CC: Mr. Harry E. Rook, P. E.

355A Weweg o

Form W51. 5-12-16-2000 (16-16758) Acc. 382

(NOTICE: After filling out one of these forms as completely as possible for each dam in your district, return it at once to the Conservation Commission, Albany.)

STATE OF NEW YORK
CONSERVATION COMMISSION
ALBANY

DAM REPORT
S73-B

June 14, 1918
(Date)

CONSERVATION COMMISSION,

DIVISION OF WATERS.

GENTLEMEN:

I have the honor to make the following report in relation to the structure known as the New York State Dam.

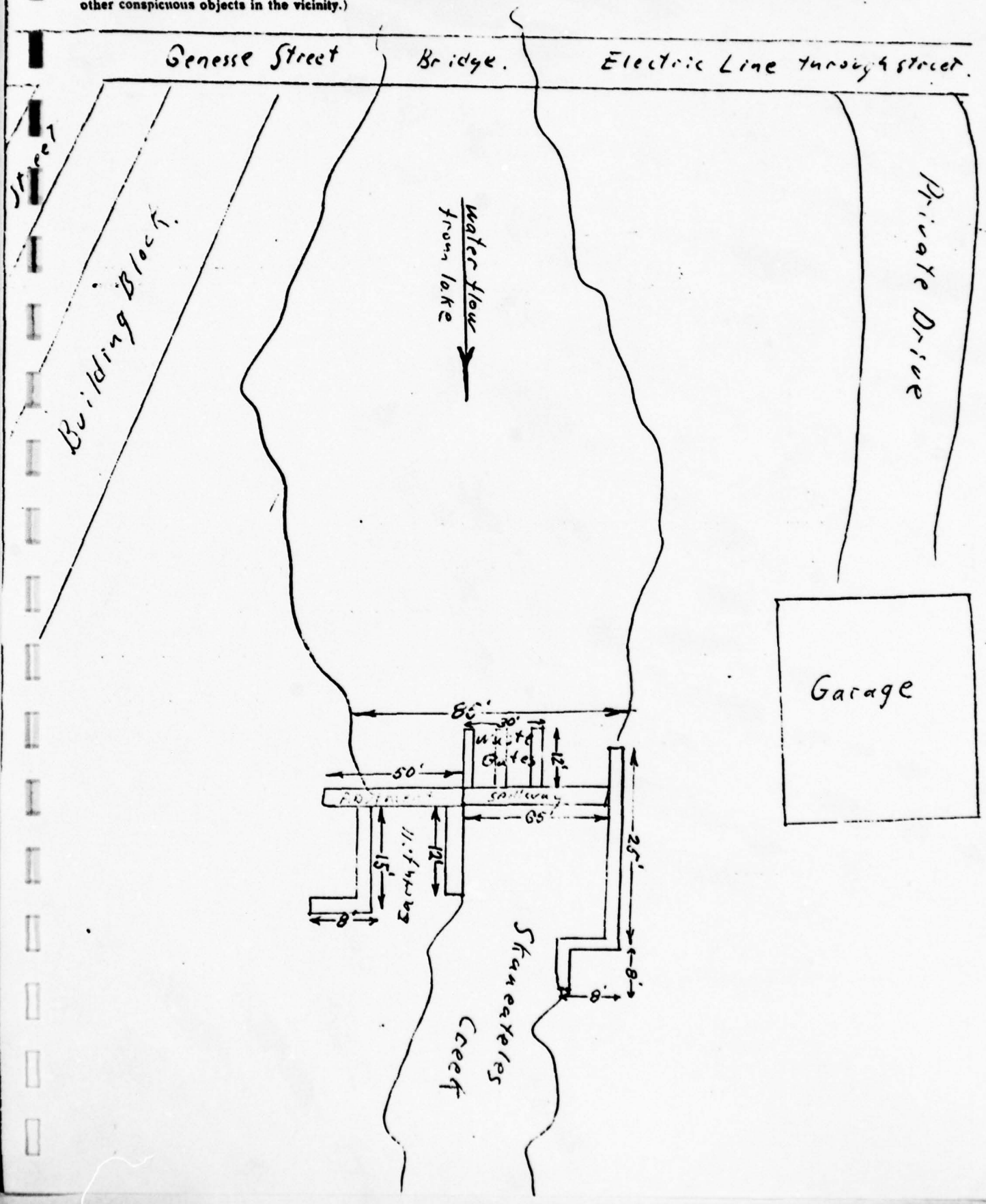
This dam is situated upon the Skaneateles Creek
(Give name of stream)
in the Town of Skaneateles, Onondaga County,
~~about~~ in (State distance) ~~from~~ the Village ~~or City~~ of Skaneateles
The distance up (Up or down) stream from the dam, to the Skaneateles Lake (Give name of nearest important stream or of a bridge),
is about 250 feet (State distance).

The dam is now owned by New York State
(Give name and address in full)
and was built in or about the year 1865, and was extensively repaired or reconstructed during the year —.

As it now stands, the spillway portion of this dam is built of masonry
(State whether of masonry, concrete or timber)
and the other portions are built of masonry
(State whether of masonry, concrete, earth or timber with or without rock fill)

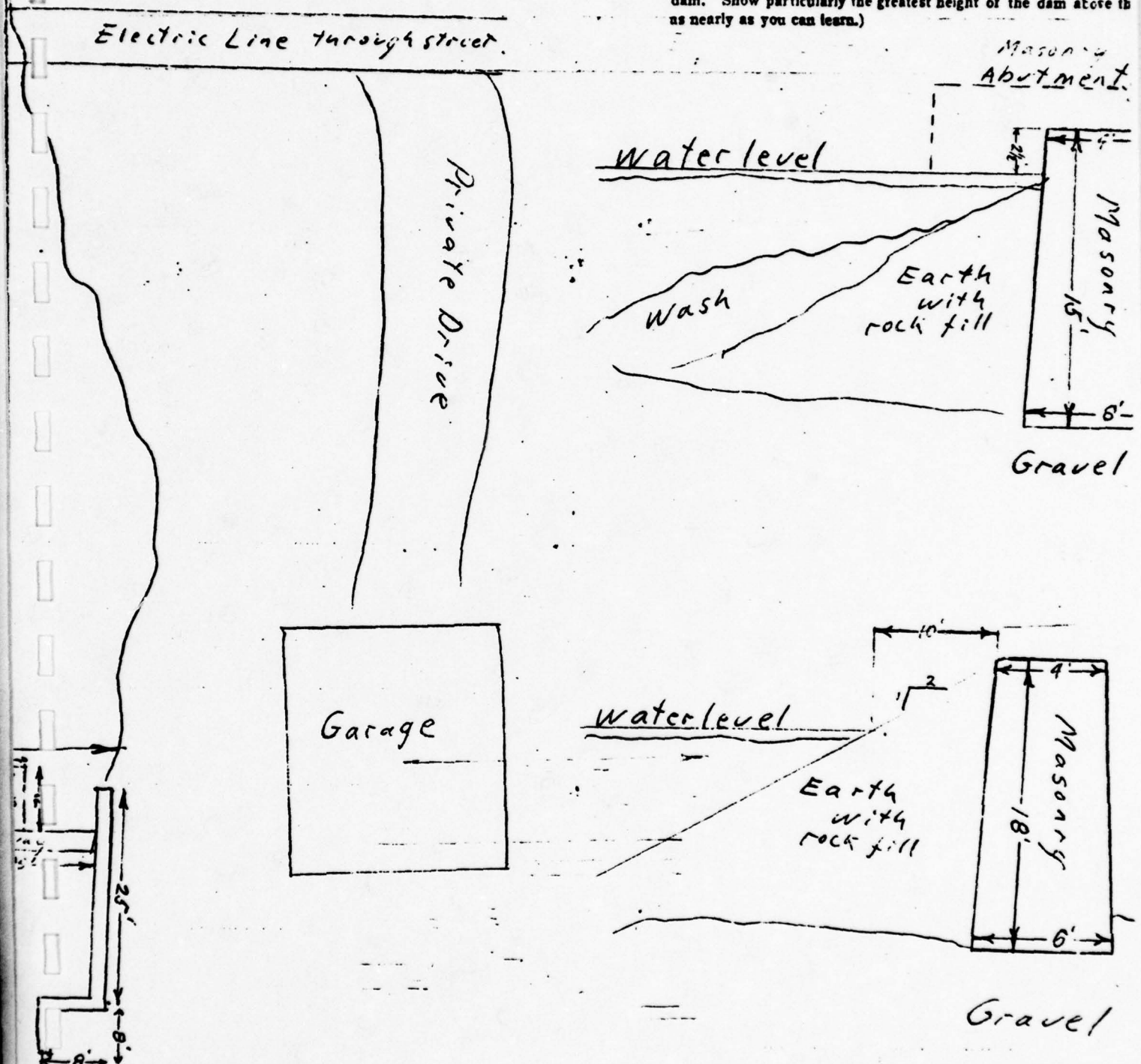
As nearly as I can learn, the character of the foundation bed under the spillway portion of the dam is gravel and under the remaining portions such foundation bed is gravel.

(In the space below, make a third sketch showing the general plan of the dam, and its approximate position in relation to buildings or other conspicuous objects in the vicinity.)

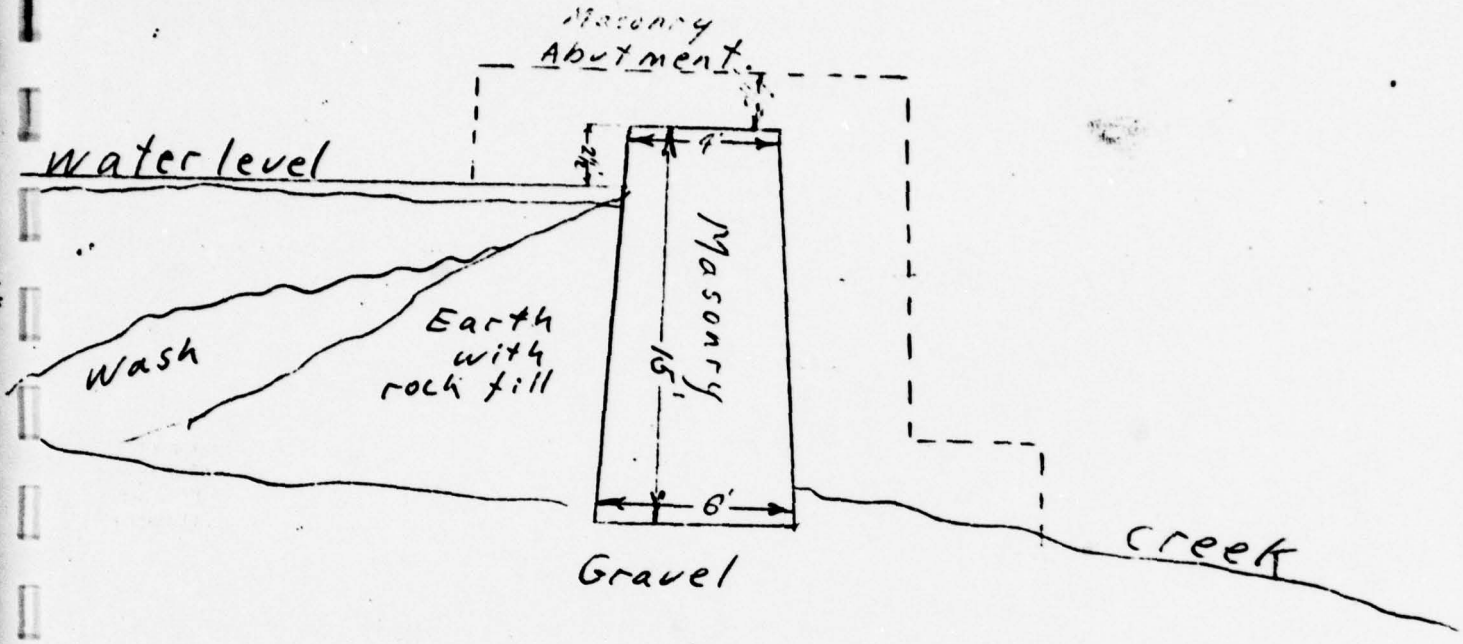


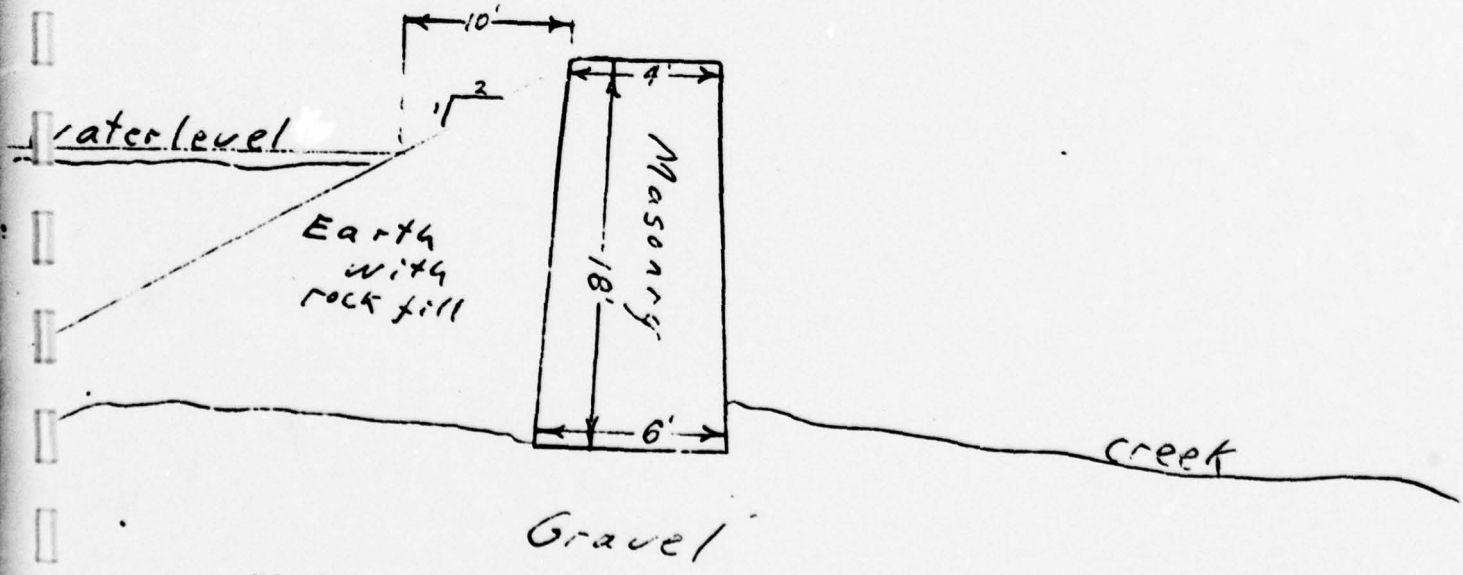
the dam, and its approximate position in relation to buildings or

(In the space below, make one sketch showing the form and dim
dam and outline the abutment, and a second sketch showing the
dam. Show particularly the greatest height of the dam above th
as nearly as you can learn.)



(In the space below, make one sketch showing the form and dimensions of a cross section through the spillway or waste-weir of this dam and outline the abutment, and a second sketch showing the same information for a cross section through the other portion of the dam. Show particularly the greatest height of the dam above the stream bed, its thickness at the top, and thickness at the bottom, as nearly as you can learn.)





The total length of this dam is 85 feet. The spillway or waste-weir portion, is about 65 feet long, and the crest of the spillway is about 2.5 feet below the abutment.

The number, size and location of discharge pipes, waste pipes or gates which may be used for drawing off the water from behind the dam, are as follows: 6-3'by 2' waste gates in base of spill way

At the time of this inspection the water level above the dam was 2 ft. 6 in. below ~~above~~ the crest of the spillway.

(State briefly, in the space below, whether, in your judgment, this dam is in good condition, or bad condition, describing particularly any leaks or cracks or erosions which you may have observed.)

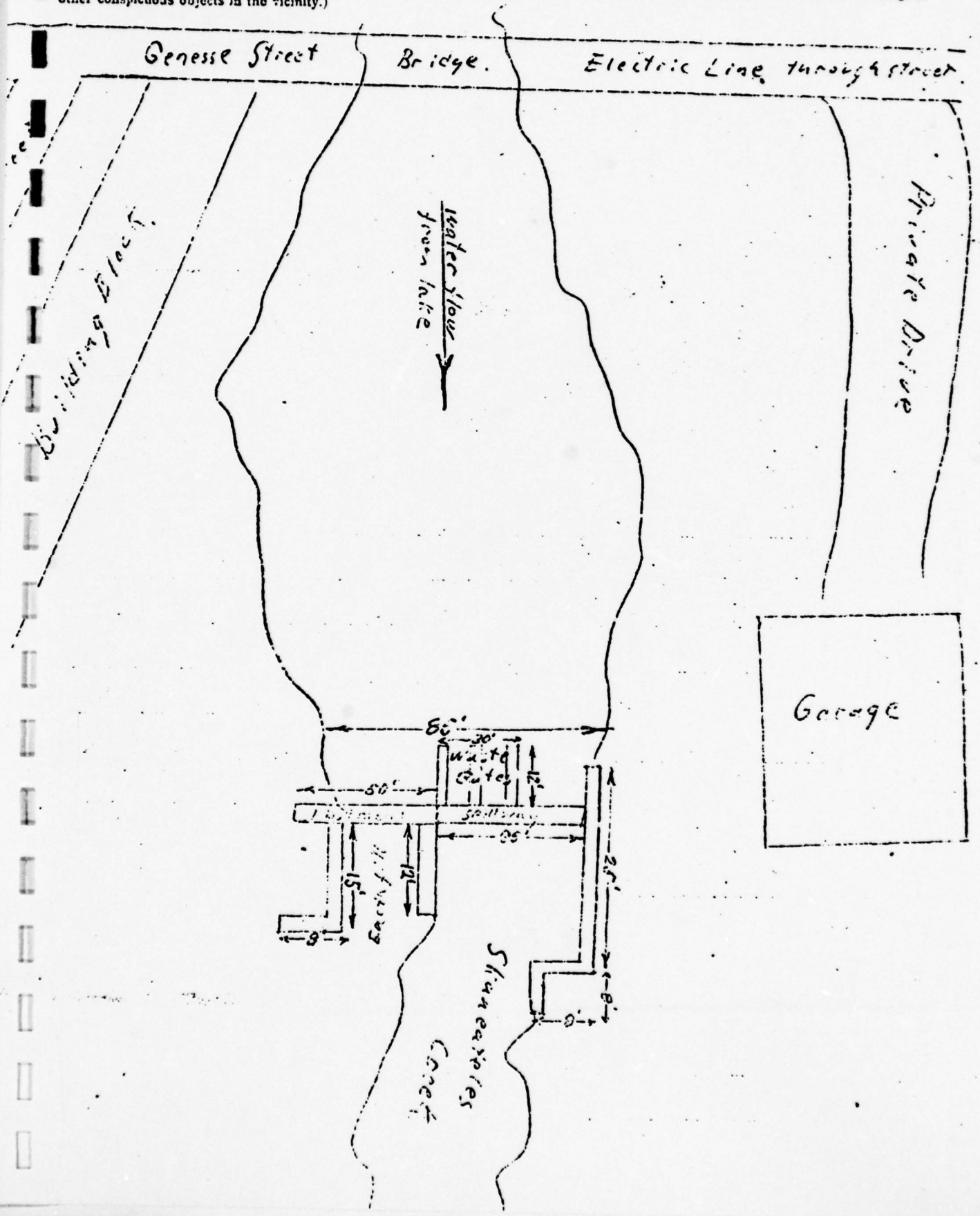
Dam appears in good condition.
Should dam go out it would do great damage due to large body of water in Skaneateles Lake.

Reported by Dwight C Gale
(Signature)

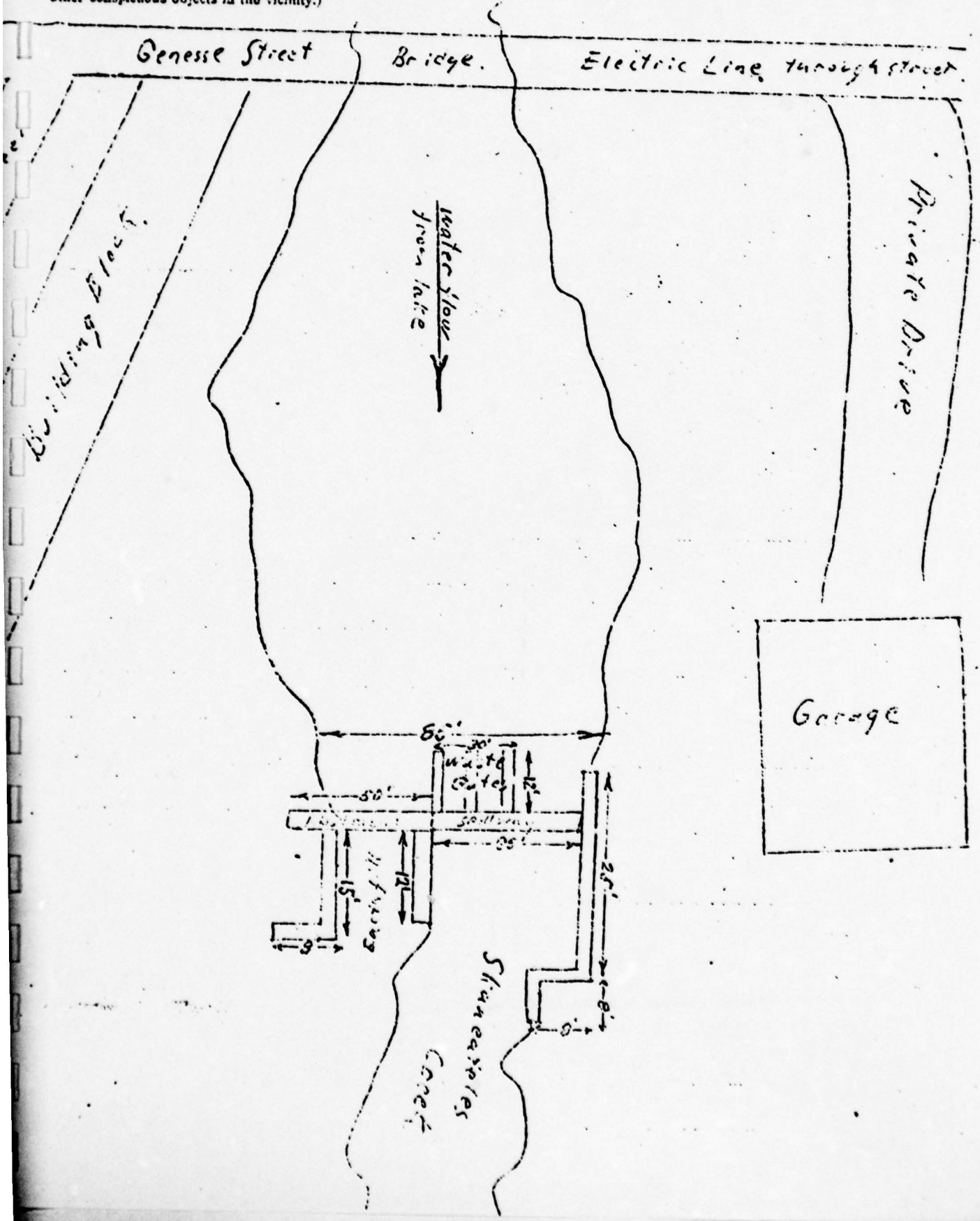
200 Willard Way
(Address—Street and number, P. O. Box or R. F. D. route)

Ithaca, N.Y.
(Name of place)

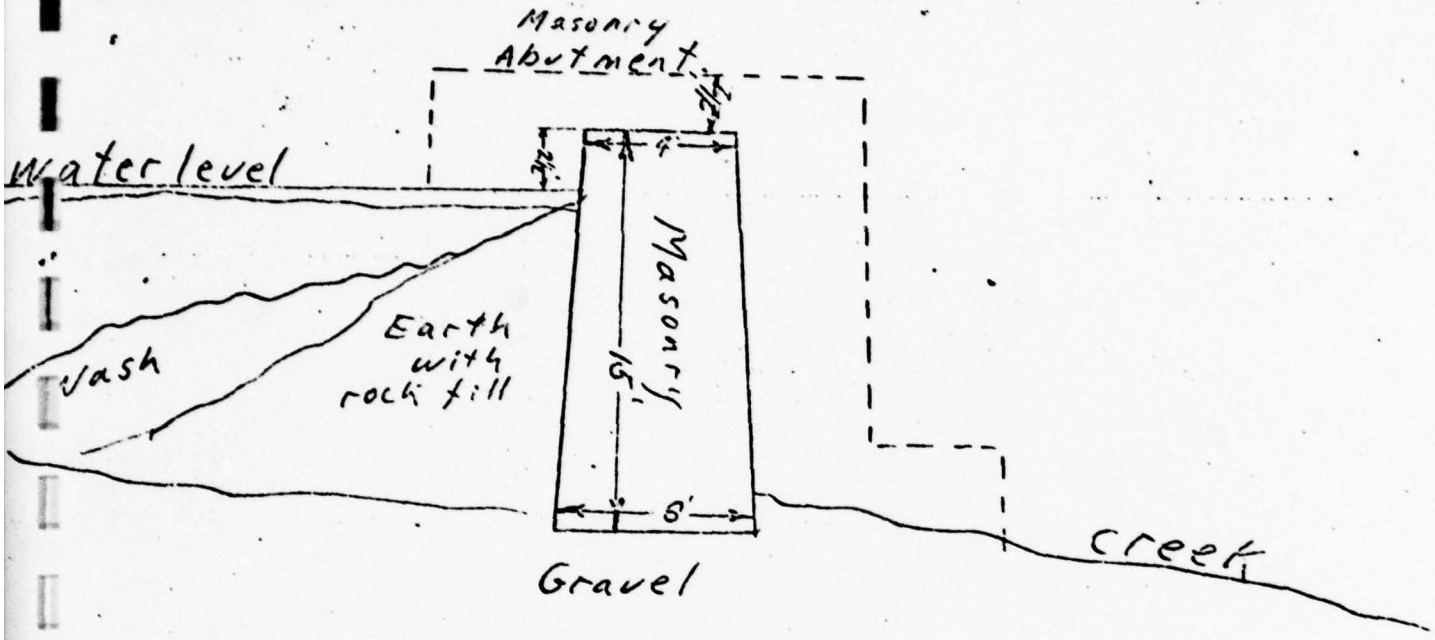
(In the space below, make a third sketch showing the general plan of the dam, and its approximate position in relation to buildings or other conspicuous objects in the vicinity.)

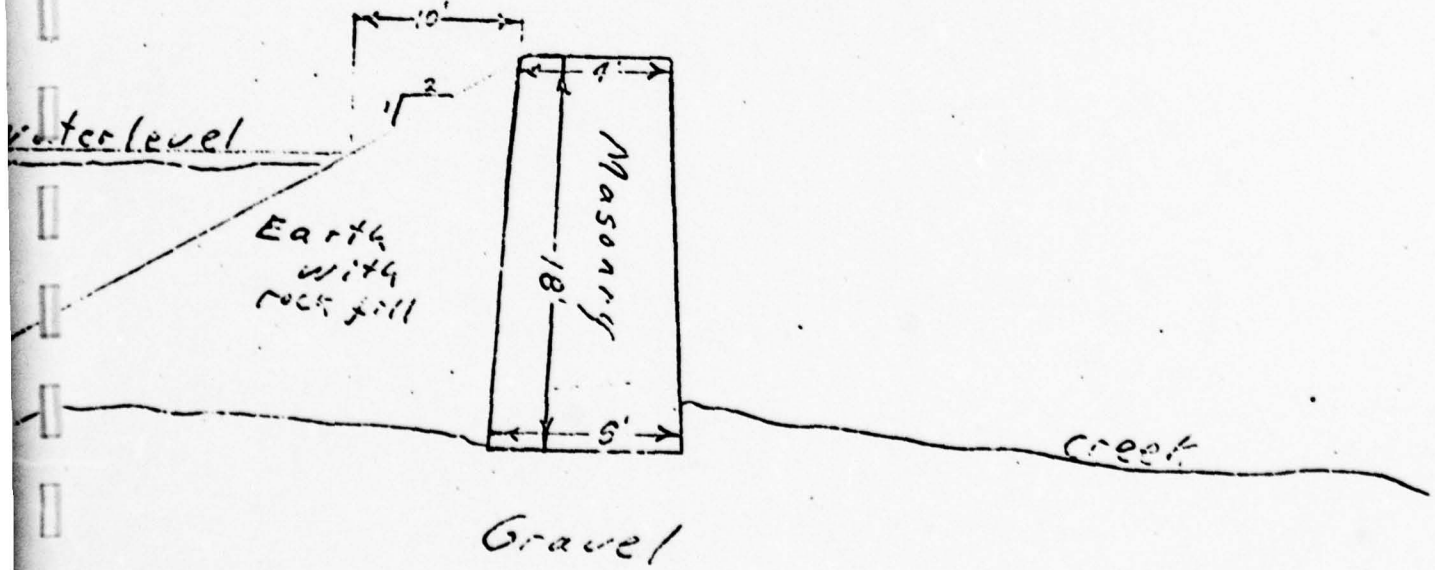


(In the space below, make a third sketch showing the general plan of the dam, and its approximate position in relation to buildings or other conspicuous objects in the vicinity.)



(In the space below, make one sketch showing the form and dimensions of a cross section through the spillway or waste-weir of this dam and outline the abutment, and a second sketch showing the same information for a cross section through the other portion of the dam. Show particularly the greatest height of the dam above the stream bed, its thickness at the top, and thickness at the bottom, as nearly as you can learn.)







APPENDIX C

HYDROLOGIC AND HYDRAULIC COMPUTATIONS

STETSON • DALE BANKERS TRUST BUILDING UTICA • NEW YORK • 13501
TEL 315-797-5800

DESIGN BRIEF

PROJECT NAME NY DAM INSPECTION DATE 9.14.78

SUBJECT SKANEATELES LAKE DAM PROJECT NO. 2210

DRAWN BY JPG

ESTIMATE OF CLARK'S PARAMETERS

ESTIMATE OF T_c

$$T_c = 11.9\,(L^3/H)^{.385} = (11.9\,(19.11)^3/1034)^{.385} = 5.412 \text{ Hrs}$$

SCS

$$L = \frac{l^{.8}\,(S+1)^{.7}}{1900\,Y^{.5}} = \frac{(100900)^{.8}\,(3.89+1)^{.7}}{1900\,(10.0)^{.5}} \qquad S = \frac{1000}{CN} - 10 = 3.89$$

$$= \frac{30593.5}{6008.33} = 5.092$$

$$T_c = L/.6 = 8.486 \text{ Hrs}$$

STETSON • DALE BANKERS TRUST BUILDING UTICA • NEW YORK • 13501
TEL 315-797-5800

DESIGN BRIEF

PROJECT NAME NY DAM INSPECTION DATE 9.15.78

SUBJECT SKANEATELES LAKE DAM PROJECT NO. 2210

DRAWN BY JPG

ESTIMATE OF SNYDER'S PARAMETERS

640 C_p =

$C_p = .625$

$t_p = C_t (L \cdot L_{CA})^{.3} = 2.0 (19.11 \times 9.55)^{.3}$

$= 9.537$

$t_r = t_p / 5.5 = 9.537 / 5.5 = 1.734$

$t_{pr} = t_p + .25 (t_R - t_r) = 9.537 + .25 (3.0 - 1.734)$

$= 9.854$

SUMMARY OF PARAMETERS

CLARK'S		SNYDER'S
BPR	$T_c =$ 5.412	$C_p =$ .625
SCS (C_N METHOD)	$T_c =$ 8.486	
NORTH ATLANTIC	$T_c =$	$t_{pr} =$ 9.854

Assume $R/(T_c+R) \pm 0.5$

Therefore $T_c = R$

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TEL 315-797-5800

DESIGN BRIEF

PROJECT NAME NY DAM INSPECTION DATE 9.19.78

JOBJECT SKANEATELES LAKE PROJECT NO. 2210

DRAWN BY JPG

HYDROMETEOROLOGICAL REPORT Nº 33

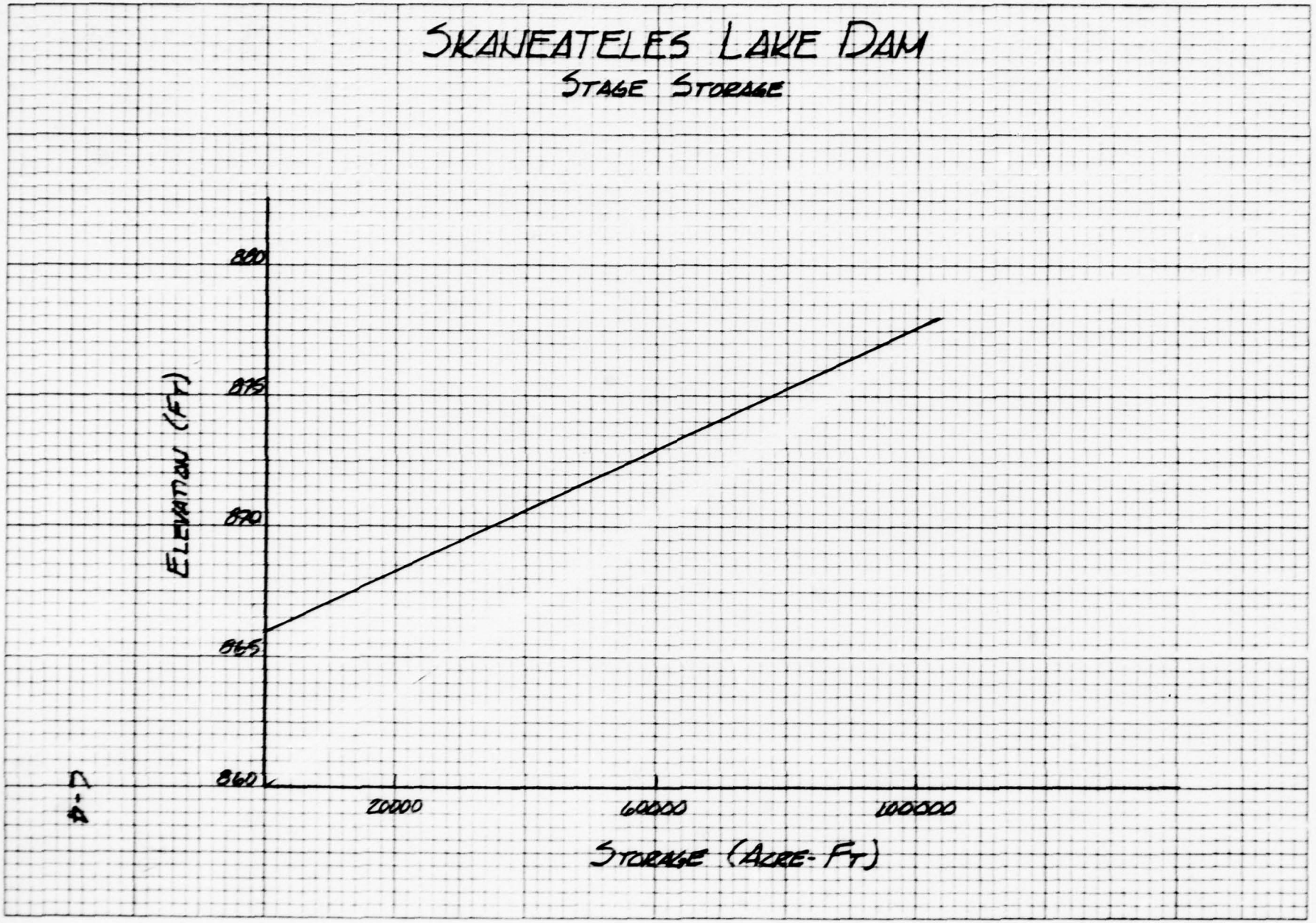
PMP INDEX RAINFALL
24 HR, 200 MI² – 21.1"

DURATION	%	DEPTH
6 Hr	80	16.88"
12 Hr	94	19.83"
24 Hr	106	22.37"
48 Hr	110	23.21"

NO. 340-10 DIETZGEN GRAPH PAPER
10 PER
DIETZGEN CORPORATION
IN

SKANEATELES LAKE DAM

STAGE STORAGE



STETSON • DALE BANKERS TRUST BUILDING UTICA • NEW YORK • 13501
TEL 315-797-5800

DESIGN BRIEF

PROJECT NAME NY DAM INSPECTION DATE 9-15-78

SUBJECT SKANEATELES LAKE DAM PROJECT NO. 2210

DRAWN BY JPG

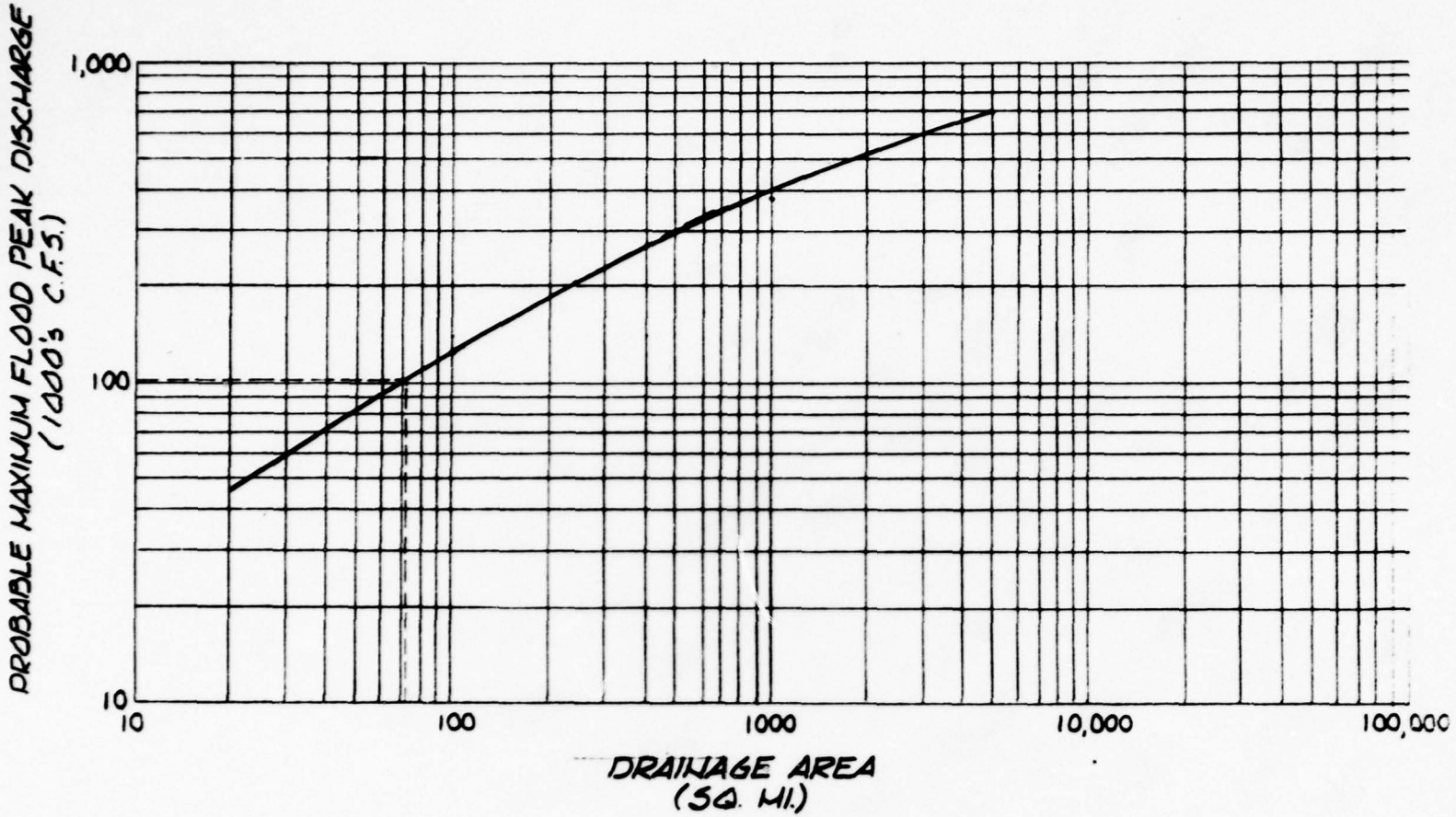
STAGE-DISCHARGE TABULATION (FROM CREST OF SPILLWAY)

ELEV		Q PRINCIPAL SPILLWAY	Q DAM	Q TOTAL
866		—	—	—
867		124.80	—	124.80
868		352.99	—	352.99
868.5	(TOP OF DAM)	493.32	—	493.32
869		648.48	98.11	746.59
870		998.40	509.80	1508.20
871		1395.31	1096.92	2492.23
872		1834.18	1817.04	3651.22
873		2311.33	2649.00	4960.33
874		2823.90	3579.37	6403.27
875		3369.60	4598.68	7968.28
876		3946.52	5699.74	9646.26
877		4553.06	6876.88	11429.94
878		5187.84	8125.47	13313.31
879		5849.65	9441.63	15291.28
880		6537.42	10 822.06	17 359.48

STETSON • DALE

JOB	DATE
2210	9.15.78
APP'D	DRAWN
	JPG

C-6



SKANEATELES LAKE DAM

ESTIMATE OF PROBABLE MAXIMUM FLOOD USING
NUCLEAR REGULATORY COMMISSION CURVES

```
00100 A    SKANEATELES LAKE DAM
0110 A   RESERVOIR ROUTING OF P.M.F. - CLARK METHOD
0120 A         39 FOOT SPILLWAY
0130 B     90       1
0140 1      5
0150 J      1       9       1
0160 1     .1      .2      .3      .4      .5      .6      .7      .8     1.0
0170 K      0       1
0180 M      1       0    72.3       0    72.3                              1
0190 P      0    21.1      80      94     106     110
00200 T                                                  1.0     0.1
0210 V    8.5     8.5
0220 X    150     150       1
0230 K      1       1
0240 Y                              1       1
0250 1      1                                           -1
0260 2  17328   34756   52184   69512  121696  226064  260820
0270 3      0     713    1107    1868    6763   13673   17715
0280 K     99
0290 A
0300 A
00310 A
0320 A
0330 A
```

```
00100 A    SKANEATELES LAKE DAM
0110 A   RESERVOIR ROUTING OF P.M.F. - SNYDER
0120 A         39 FOOT SPILLWAY
0130 B    150       1
0140 1      5
0150 J      1       9       1
0160 1     .1      .2      .3      .4      .5      .6      .7      .8
0170 K      0       1
0180 M      1       1    72.3       0    72.3
0190 P      0    21.1      80      94     106     110
0200 T                                                   1.0     0.1
0210 W  9.854   0.625
0220 X    150     150       1
0230 K      1       1
0240 Y                              1       1
0250 1      1                                           -1
0260 2      0   17328   34756   52184  104368  208736  243492
0270 3      0     353     747    1508    6403   13313   17359
0280 K     99
0290 A
0300 A
0310 A
0320 A
0330 A
```

```
--
00100 A   SKANEATELES LAKE DAM
0110 A  RESERVOIR ROUTING OF P.M.F. - CLARK METHOD
0120 A        39 FOOT SPILLWAY
0130 B    90       1
0140 1     5
0150 J     1       9       1
0160 1    .1      .2      .3      .4      .5      .6      .7      .8     1.0
0170 K     0       1
0180 M     1       0    72.3       0    72.3                              1
0190 P     0    21.1      80      94     106     110
00200 T                                                 1.0     0.1
0210 V   8.5     8.5
0220 X   150     150       1
0230 K     1       1
0240 Y                               1       1
0250 1     1                                           -1
0260 2     0   17328   34756   52184  104368  208736  243492
0270 3     0     713    1107    1868    6763   13673   17715
0280 K    99
0290 A
0300 A
00310 A
0320 A
0330 A
```

****
EC-1 VERSION DATED JAN 1973
PDATED AUG 74
CHANGE NO. 01
****

SKANEATELES LAKE DAM
RESERVOIR ROUTING OF P.M.F. - CLARK METHOD
39 FOOT SPILLWAY

JOB SPECIFICATION

NQ	NHR	NMIN	IDAY	IHR	IMIN	METRC	IPLT	IPRT	NSTAN
90	1	0	0	0	0	0	0	0	0

JOPER	NWT
5	0

MULTI-PLAN ANALYSES TO BE PERFORMED
NPLAN= 1 NRTIO= 9 LRTIO= 1

RTIOS=	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	1.00

********** ********** ********** ********** **********

SUB-AREA RUNOFF COMPUTATION

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
1	0	0	0	0	0	0

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	0	72.30	0.0	72.30	0.0	0.0	0	1	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	21.10	80.00	94.00	106.00	110.00	0.0	0.0

RSPC COMPUTED BY THE PROGRAM IS 0.859

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	1.00	0.10	0.0	0.0

UNIT HYDROGRAPH DATA

RECESSION DATA

STRTQ# 150.00 QRCSN# 150.00 RTIOR# 1.00

UNIT HYDROGRAPH 50 END-OF-PERIOD ORDINATES, LAG# 7.74 HOURS, CP# 0.57 VOL# 1.00

148.	550.	1109.	1750.	2410.	2966.	3333.	3495.	3378.	3055.
2716.	2414.	2146.	1907.	1695.	1507.	1339.	1191.	1058.	941.
836.	743.	661.	587.	522.	464.	412.	367.	326.	290.
258.	229.	203.	181.	161.	143.	127.	113.	100.	89.
79.	70.	63.	56.	50.	44.	39.	35.	31.	27.

END-OF-PERIOD FLOW

TIME	RAIN	EXCS	COMP Q
1	0.01	0.00	150.
2	0.01	0.00	150.
3	0.01	0.00	150.
4	0.01	0.00	150.
5	0.01	0.00	150.
6	0.01	0.00	150.
7	0.02	0.00	150.
8	0.02	0.00	150.
9	0.02	0.00	150.
10	0.02	0.00	150.
11	0.02	0.00	150.
12	0.02	0.00	150.
13	0.05	0.00	150.
14	0.07	0.00	150.
15	0.08	0.00	150.
16	0.21	0.00	150.
17	0.08	0.00	150.
18	0.06	0.00	150.
19	0.01	0.00	150.
20	0.01	0.00	150.
21	0.01	0.00	150.
22	0.01	0.00	150.
23	0.01	0.00	150.
24	0.01	0.00	150.
25	0.15	0.00	150.
26	0.15	0.00	151.
27	0.15	0.05	159.
28	0.15	0.05	187.
29	0.15	0.05	240.
30	0.15	0.05	321.
31	0.42	0.32	474.
32	0.42	0.32	762.
33	0.42	0.32	1221.
34	0.42	0.32	1864.
35	0.42	0.32	2684.
36	0.42	0.32	3645.
37	1.45	1.35	4844.
38	1.74	1.64	6530.
39	2.18	2.08	8927.
40	5.51	5.41	12713.
41	2.03	1.93	18328.
42	1.60	1.50	25294.
43	0.22	0.12	32819.
44	0.22	0.12	39956.
45	0.22	0.12	45623.
46	0.22	0.12	49056.
47	0.22	0.12	50056.
48	0.22	0.12	48584.
49	0.0	0.0	45296.
50	0.0	0.0	41291.
51	0.0	0.0	37262.
52	0.0	0.0	33518.

54	0.0	0.0	26945.
55	0.0	0.0	24069.
56	0.0	0.0	21449.
57	0.0	0.0	19089.
58	0.0	0.0	16984.
59	0.0	0.0	15114.
60	0.0	0.0	13451.
61	0.0	0.0	11973.
62	0.0	0.0	10660.
63	0.0	0.0	9492.
64	0.0	0.0	8454.
65	0.0	0.0	7531.
66	0.0	0.0	6711.
67	0.0	0.0	5982.
68	0.0	0.0	5334.
69	0.0	0.0	4758.
70	0.0	0.0	4246.
71	0.0	0.0	3791.
72	0.0	0.0	3386.
73	0.0	0.0	3027.
74	0.0	0.0	2707.
75	0.0	0.0	2423.
76	0.0	0.0	2170.
77	0.0	0.0	1945.
78	0.0	0.0	1744.
79	0.0	0.0	1566.
80	0.0	0.0	1408.
81	0.0	0.0	1268.
82	0.0	0.0	1129.
83	0.0	0.0	1012.
84	0.0	0.0	908.
85	0.0	0.0	816.
86	0.0	0.0	734.
87	0.0	0.0	636.
88	0.0	0.0	542.
89	0.0	0.0	448.
90	0.0	0.0	283.
SUM	20.04	16.75	789821.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	58056.	46651.	28296.	10932.	789821.
INCHES		6.00	14.56	16.88	16.94
AC-FT		23145.	56154.	65085.	65308.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 1

15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	16.	19.	24.	32.
47.	76.	122.	186.	268.	364.	484.	653.	893.	1271.
1833.	2529.	3282.	3996.	4562.	4906.	5006.	4858.	4530.	4129.
3726.	3352.	3009.	2695.	2407.	2145.	1909.	1698.	1511.	1345.
1197.	1066.	949.	845.	753.	671.	598.	533.	476.	425.
379.	339.	303.	271.	242.	217.	194.	174.	157.	141.
126.	113.	101.	91.	82.	73.	64.	54.	45.	28.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	5006.	4665.	2830.	1093.	78981.
INCHES		0.60	1.46	1.69	1.69
AC-FT		2314.	5615.	6508.	6531.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 2

30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	32.	37.	48.	64.

3666.	3057.	6364.	7771.	7123.	7811.	10011.	7717.	7057.	6258.
7452.	6704.	6018.	5389.	4814.	4290.	3818.	3397.	3023.	2690.
2395.	2132.	1898.	1691.	1506.	1342.	1196.	1067.	952.	849.
758.	677.	605.	541.	485.	434.	389.	349.	313.	282.
252.	226.	202.	182.	163.	147.	127.	108.	90.	57.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	10011.	9330.	5659.	2186.	157963.
INCHES		1.20	2.91	3.38	3.39
AC-FT		4629.	11231.	13017.	13062.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 3

45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	48.	56.	72.	96.
142.	228.	366.	559.	805.	1093.	1453.	1959.	2678.	3814.
5498.	7588.	9846.	11987.	13687.	14717.	15017.	14575.	13589.	12387.
11178.	10055.	9027.	8084.	7221.	6435.	5727.	5095.	4534.	4035.
3592.	3198.	2848.	2536.	2259.	2013.	1795.	1600.	1427.	1274.
1137.	1016.	908.	812.	727.	651.	583.	523.	470.	422.
378.	339.	304.	273.	245.	220.	191.	163.	134.	85.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	15017.	13995.	8489.	3280.	236945.
INCHES		1.80	4.37	5.06	5.08
AC-FT		6943.	16846.	19525.	19592.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 4

60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	64.	75.	96.	129.
189.	305.	488.	746.	1074.	1458.	1938.	2612.	3571.	5085.
7331.	10118.	13127.	15983.	18249.	19622.	20022.	19434.	18118.	16516.
14905.	13407.	12036.	10778.	9627.	8580.	7635.	6794.	6046.	5380.
4789.	4264.	3797.	3382.	3012.	2684.	2393.	2134.	1903.	1698.
1516.	1355.	1211.	1083.	969.	868.	778.	698.	626.	563.
504.	451.	405.	363.	327.	294.	255.	217.	179.	113.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	20022.	18660.	11318.	4373.	315927.
INCHES		2.40	5.83	6.75	6.77
AC-FT		9258.	22461.	26834.	26123.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 5

75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	80.	93.	120.	161.
237.	381.	610.	932.	1342.	1822.	2422.	3265.	4464.	6357.
9164.	12647.	16409.	19978.	22812.	24528.	25028.	24292.	22648.	20646.
18631.	16759.	15045.	13473.	12034.	10725.	9544.	8492.	7557.	6726.
5987.	5330.	4746.	4227.	3766.	3356.	2991.	2667.	2379.	2123.
1895.	1693.	1513.	1354.	1212.	1085.	972.	872.	783.	704.
630.	564.	506.	454.	408.	367.	318.	271.	224.	141.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	25028.	23325.	14148.	5466.	394909.
INCHES		3.00	7.28	8.44	8.47
AC-FT		11572.	28077.	32542.	32654.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 6

90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	96.	112.	144.	193.
284.	457.	732.	1118.	1611.	2187.	2906.	3918.	5356.	7628.
10997.	15177.	19691.	23974.	27374.	29433.	30034.	29150.	27178.	24775.

7184.	6396.	5695.	5072.	4519.	4027.	3589.	3200.	2855.	2548.
2275.	2032.	1816.	1624.	1454.	1302.	1167.	1047.	940.	845.
756.	677.	607.	545.	490.	441.	382.	325.	269.	170.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	30034.	27991.	16978.	6559.	473891.
INCHES		3.60	8.74	10.13	10.16
AC-FT		13887.	33692.	39051.	39185.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 7

105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	111.	131.	168.	225.
332.	533.	854.	1305.	1879.	2551.	3391.	4571.	6249.	8899.
12829.	17706.	22973.	27969.	31936.	34339.	35039.	34009.	31707.	28904.
26083.	23462.	21063.	18862.	16848.	15014.	13362.	11889.	10580.	9416.
8381.	7462.	6644.	5918.	5272.	4698.	4187.	3734.	3331.	2972.
2654.	2370.	2119.	1895.	1696.	1519.	1361.	1221.	1096.	985.
882.	790.	708.	636.	571.	514.	446.	388.	314.	198.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	35039.	32656.	19807.	7653.	552873.
INCHES		4.20	10.19	11.82	11.86
AC-FT		16201.	39308.	45559.	45716.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 8

120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	121.	127.	149.	192.	257.
379.	609.	977.	1491.	2148.	2916.	3875.	5224.	7142.	10170.
14662.	20236.	26255.	31965.	36498.	39245.	40045.	38867.	36237.	33033.
29809.	26814.	24071.	21556.	19255.	17159.	15271.	13587.	12091.	10761.
9579.	8528.	7593.	6763.	6025.	5369.	4786.	4267.	3806.	3397.
3033.	2709.	2421.	2166.	1938.	1736.	1556.	1395.	1253.	1126.
1008.	903.	810.	727.	653.	587.	589.	434.	358.	226.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	40045.	37321.	22637.	8746.	631854.
INCHES		4.80	11.65	13.50	13.55
AC-FT		18516.	44923.	52068.	52246.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 9

150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	151.	159.	187.	240.	321.
474.	762.	1221.	1864.	2684.	3645.	4844.	6530.	8927.	12713.
18328.	25294.	32818.	39956.	45623.	49056.	50056.	48584.	45296.	41291.
37261.	33518.	30089.	26945.	24069.	21449.	19089.	16984.	15114.	13451.
11973.	10660.	9492.	8454.	7531.	6711.	5982.	5334.	4758.	4246.
3791.	3386.	3027.	2707.	2423.	2170.	1945.	1744.	1566.	1408.
1268.	1129.	1012.	908.	816.	734.	636.	542.	448.	283.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	50056.	46651.	28296.	10932.	789818.
INCHES		6.00	14.56	16.88	16.94
AC-FT		23145.	56154.	65085.	65308.

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HYDROGRAPH ROUTING

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
1	1	0	0	0	0	0

ROUTING DATA

				0.0	0.0	0.0	1	1		

	NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA
	1	0	0	0.0	0.0	0.0	-1.

STORAGE#	0.	17328.	34756.	52184.	104368.	208736.	243492.	0.	0.	0.
OUTFLOW#	0.	713.	1107.	1868.	6763.	13673.	17715.	0.	0.	0.

STATION 1, PLAN 1, RTIO 1

15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	16.	16.	17.	18.	19.	21.	24.	27.
32.	40.	49.	62.	76.	92.	108.	125.	140.	154.
167.	179.	189.	198.	206.	213.	219.	224.	229.	233.
237.	240.	242.	245.	246.	248.	249.	250.	251.	252.
252.	253.	253.	253.	253.	253.	253.	253.	252.	252.
252.	251.	251.	250.	250.	249.	248.	248.	247.	246.

STOR

365.	365.	365.	365.	365.	365.	365.	365.	365.	365.
365.	365.	365.	365.	365.	365.	365.	365.	365.	365.
365.	365.	365.	365.	365.	365.	365.	365.	365.	366.
368.	372.	379.	391.	408.	433.	466.	512.	574.	661.
787.	964.	1201.	1497.	1845.	2229.	2630.	3028.	3405.	3751.
4062.	4340.	4588.	4808.	5002.	5173.	5322.	5453.	5567.	5666.
5751.	5825.	5889.	5943.	5988.	6027.	6059.	6085.	6106.	6122.
6135.	6143.	6149.	6152.	6152.	6150.	6146.	6141.	6133.	6125.
6115.	6104.	6092.	6079.	6066.	6052.	6037.	6021.	6005.	5987.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	253.	253.	251.	150.	11052.
INCHES		0.03	0.13	0.23	0.24
AC-FT		126.	498.	892.	914.

STATION 1, PLAN 1, RTIO 2

30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	31.	31.	32.	34.	36.	38.	42.	47.	54.
65.	79.	99.	123.	152.	183.	216.	249.	280.	309.
334.	357.	378.	396.	412.	426.	438.	449.	458.	466.
473.	479.	485.	489.	493.	496.	499.	501.	502.	504.
505.	506.	506.	506.	506.	506.	506.	505.	505.	504.
503.	502.	501.	500.	499.	498.	497.	496.	494.	493.

STOR

729.	729.	729.	729.	729.	729.	729.	729.	729.	729.
729.	729.	729.	729.	729.	729.	729.	729.	729.	729.
729.	729.	729.	729.	729.	729.	729.	730.	731.	733.
737.	744.	758.	781.	816.	866.	933.	1023.	1147.	1322.
1574.	1928.	2401.	2993.	3689.	4458.	5260.	6056.	6810.	7502.
8124.	8681.	9176.	9615.	10004.	10345.	10645.	10906.	11134.	11332.
11503.	11651.	11777.	11885.	11977.	12054.	12118.	12170.	12212.	12245.
12269.	12287.	12299.	12304.	12304.	12300.	12292.	12281.	12267.	12250.
12230.	12208.	12185.	12159.	12132.	12104.	12074.	12042.	12010.	11975.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	506.	506.	502.	300.	22104.
INCHES		0.07	0.26	0.46	0.47
AC-FT		251.	996.	1783.	1828.

STATION 1, PLAN 1, RTIO 3

45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.

45.	46.	47.	48.	50.	53.	58.	63.	71.	82.
97.	119.	148.	185.	228.	275.	325.	374.	420.	463.
501.	536.	566.	593.	617.	639.	657.	673.	687.	699.
710.	716.	721.	724.	727.	730.	732.	734.	736.	737.
738.	738.	739.	739.	739.	739.	739.	738.	738.	737.
737.	736.	735.	734.	733.	732.	731.	730.	729.	728.

STOR

1094.	1094.	1094.	1094.	1094.	1094.	1094.	1094.	1094.	1094.
1094.	1094.	1094.	1094.	1094.	1094.	1094.	1094.	1094.	1094.
1094.	1094.	1094.	1094.	1094.	1094.	1094.	1094.	1096.	1099.
1105.	1117.	1137.	1172.	1224.	1298.	1399.	1535.	1721.	1983.
2360.	2892.	3602.	4490.	5534.	6687.	7891.	9085.	10216.	11252.
12186.	13021.	13764.	14423.	15005.	15518.	15967.	16359.	16701.	16998.
17254.	17476.	17666.	17829.	17967.	18084.	18181.	18260.	18325.	18375.
18414.	18442.	18461.	18471.	18473.	18469.	18459.	18444.	18424.	18400.
18372.	18341.	18306.	18269.	18230.	18189.	18145.	18100.	18051.	18000.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	739.	739.	735.	443.	32694.
INCHES		0.10	0.38	0.68	0.70
AC-FT		366.	1459.	2636.	2783.

STATION 1, PLAN 1, RTIO 4

60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
61.	61.	62.	64.	67.	71.	77.	84.	94.	109.
129.	159.	198.	246.	304.	367.	433.	498.	560.	617.
669.	714.	736.	756.	774.	789.	803.	815.	825.	834.
842.	849.	855.	860.	865.	868.	872.	874.	876.	878.
879.	880.	881.	882.	882.	882.	882.	882.	881.	881.
880.	879.	878.	877.	876.	875.	874.	873.	872.	870.

STOR

1458.	1458.	1458.	1458.	1458.	1458.	1458.	1458.	1458.	1458.
1458.	1458.	1458.	1458.	1458.	1458.	1458.	1458.	1458.	1458.
1458.	1458.	1458.	1458.	1458.	1458.	1458.	1459.	1461.	1465.
1474.	1489.	1517.	1562.	1632.	1731.	1865.	2047.	2295.	2644.
3147.	3856.	4802.	5987.	7378.	8916.	10521.	12113.	13621.	15003.
16249.	17361.	18353.	19234.	20014.	20702.	21306.	21835.	22298.	22702.
23052.	23357.	23619.	23845.	24038.	24202.	24340.	24455.	24549.	24625.
24686.	24731.	24765.	24787.	24799.	24802.	24797.	24785.	24767.	24743.
24714.	24681.	24644.	24603.	24559.	24512.	24463.	24410.	24354.	24294.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	882.	882.	878.	540.	39987.
INCHES		0.11	0.45	0.83	0.86
AC-FT		437.	1742.	3217.	3306.

STATION 1, PLAN 1, RTIO 5

75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
76.	77.	78.	80.	84.	89.	96.	105.	118.	136.
162.	198.	247.	308.	380.	459.	541.	623.	701.	745.
781.	812.	840.	865.	888.	907.	924.	939.	953.	964.
974.	983.	991.	997.	1003.	1007.	1012.	1015.	1018.	1020.
1022.	1023.	1024.	1025.	1026.	1026.	1026.	1026.	1025.	1025.
1024.	1023.	1022.	1021.	1020.	1019.	1018.	1017.	1015.	1014.

STOR

1823.	1823.	1823.	1823.	1823.	1823.	1823.	1823.	1823.	1823.
1823.	1823.	1823.	1823.	1823.	1823.	1823.	1823.	1823.	1823.
1823.	1823.	1823.	1823.	1823.	1823.	1823.	1824.	1826.	1832.

3934.	4820.	6003.	7483.	9223.	11145.	13151.	15141.	17026.	18755.
20315.	21712.	22958.	24066.	25047.	25913.	26675.	27344.	27929.	28440.
28885.	29271.	29606.	29895.	30142.	30354.	30532.	30683.	30807.	30909.
30991.	31054.	31102.	31136.	31157.	31167.	31168.	31159.	31143.	31119.
31090.	31055.	31014.	30970.	30921.	30869.	30813.	30753.	30689.	30621.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1026.	1026.	1021.	632.	46887.
INCHES		0.13	0.53	0.98	1.01
AC-FT		509.	2026.	3765.	3877.

STATION 1, PLAN 1, RTIO 6

90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
91.	92.	94.	96.	101.	107.	115.	126.	142.	163.
194.	238.	296.	370.	455.	550.	649.	732.	783.	830.
873.	911.	945.	975.	1002.	1025.	1046.	1064.	1080.	1094.
1106.	1126.	1144.	1159.	1172.	1184.	1193.	1201.	1207.	1213.
1217.	1221.	1223.	1225.	1226.	1227.	1227.	1226.	1225.	1224.
1223.	1221.	1219.	1216.	1214.	1211.	1208.	1205.	1202.	1198.

STOR

2187.	2187.	2187.	2187.	2187.	2187.	2187.	2187.	2187.	2187.
2187.	2187.	2187.	2187.	2187.	2187.	2187.	2187.	2187.	2187.
2187.	2187.	2187.	2187.	2187.	2187.	2188.	2189.	2192.	2198.
2210.	2233.	2275.	2344.	2448.	2597.	2798.	3070.	3442.	3966.
4721.	5784.	7203.	8980.	11068.	13374.	15781.	18170.	20435.	22515.
24392.	26073.	27574.	28908.	30092.	31136.	32056.	32863.	33570.	34189.
34728.	35197.	35603.	35952.	36252.	36508.	36725.	36906.	37057.	37180.
37279.	37356.	37414.	37455.	37481.	37494.	37494.	37485.	37465.	37438.
37403.	37361.	37313.	37260.	37203.	37141.	37075.	37004.	36929.	36848.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1227.	1226.	1215.	741.	55003.
INCHES		0.16	0.63	1.14	1.18
AC-FT		608.	2412.	4414.	4548.

STATION 1, PLAN 1, RTIO 7

105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	106.
106.	107.	109.	113.	118.	125.	134.	147.	165.	190.
227.	278.	346.	431.	531.	642.	738.	801.	860.	915.
965.	1009.	1049.	1084.	1124.	1177.	1224.	1265.	1301.	1332.
1360.	1383.	1404.	1421.	1436.	1449.	1460.	1469.	1476.	1482.
1487.	1491.	1493.	1495.	1496.	1497.	1497.	1496.	1495.	1493.
1491.	1489.	1486.	1483.	1480.	1477.	1473.	1469.	1465.	1461.

STOR

2552.	2552.	2552.	2552.	2552.	2552.	2552.	2552.	2552.	2552.
2552.	2552.	2552.	2552.	2552.	2552.	2552.	2552.	2552.	2552.
2552.	2552.	2552.	2552.	2552.	2552.	2552.	2553.	2557.	2565.
2579.	2606.	2654.	2734.	2856.	3029.	3264.	3582.	4016.	4627.
5508.	6749.	8404.	10477.	12912.	15602.	18412.	21202.	23849.	26280.
28475.	30440.	32195.	33757.	35141.	36363.	37436.	38377.	39199.	39916.
40541.	41082.	41550.	41952.	42296.	42589.	42836.	43042.	43212.	43351.
43460.	43545.	43607.	43649.	43674.	43683.	43679.	43662.	43634.	43597.
43550.	43496.	43435.	43368.	43296.	43218.	43136.	43049.	42956.	42856.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1497.	1496.	1483.	888.	65818.
INCHES		0.19	0.76	1.37	1.41
AC-FT		742.	2944.	5286.	5442.

STATION 1, PLAN 1, RTIO 8

120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	121.
121.	123.	125.	129.	134.	142.	153.	168.	189.	218.
259.	317.	395.	493.	607.	724.	797.	869.	938.	1001.
1057.	1109.	1157.	1275.	1344.	1405.	1458.	1505.	1545.	1581.
1612.	1639.	1662.	1682.	1699.	1713.	1725.	1735.	1744.	1750.
1756.	1760.	1763.	1764.	1766.	1766.	1765.	1764.	1763.	1761.
1758.	1755.	1752.	1748.	1745.	1741.	1736.	1732.	1727.	1722.

STOR

2916.	2916.	2916.	2916.	2916.	2916.	2916.	2916.	2916.	2916.
2916.	2916.	2916.	2916.	2916.	2916.	2916.	2916.	2916.	2916.
2916.	2916.	2916.	2916.	2916.	2916.	2917.	2918.	2922.	2931.
2947.	2978.	3033.	3125.	3264.	3462.	3730.	4093.	4589.	5288.
6294.	7713.	9604.	11973.	14757.	17832.	21045.	24237.	27266.	30048.
32560.	34810.	36818.	38601.	40179.	41570.	42792.	43862.	44797.	45612.
46321.	46935.	47465.	47920.	48308.	48638.	48916.	49147.	49337.	49490.
49611.	49703.	49769.	49813.	49837.	49843.	49833.	49809.	49772.	49725.
49668.	49602.	49528.	49446.	49359.	49266.	49168.	49064.	48953.	48835.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1766.	1765.	1750.	1039.	76983.
INCHES		0.23	0.90	1.60	1.65
AC-FT		875.	3473.	6187.	6365.

STATION 1, PLAN 1, RTIO 9

150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	151.
152.	153.	156.	161.	168.	178.	192.	211.	236.	272.
324.	397.	494.	616.	738.	825.	916.	1007.	1092.	1231.
1368.	1490.	1600.	1696.	1782.	1858.	1988.	2112.	2220.	2313.
2393.	2462.	2521.	2571.	2613.	2648.	2676.	2699.	2717.	2731.
2741.	2748.	2751.	2752.	2751.	2747.	2742.	2735.	2726.	2717.
2706.	2695.	2682.	2669.	2655.	2640.	2625.	2609.	2593.	2576.

STOR

3645.	3645.	3645.	3645.	3645.	3645.	3645.	3645.	3645.	3645.
3645.	3645.	3645.	3645.	3645.	3645.	3645.	3645.	3645.	3645.
3645.	3645.	3645.	3645.	3645.	3645.	3646.	3648.	3653.	3664.
3684.	3722.	3792.	3906.	4080.	4328.	4663.	5116.	5737.	6610.
7868.	9641.	12005.	14967.	18447.	22295.	26318.	30315.	34107.	37589.
40728.	43535.	46035.	48256.	50220.	51951.	53467.	54788.	55935.	56928.
57785.	58519.	59146.	59677.	60123.	60495.	60799.	61045.	61238.	61385.
61491.	61560.	61598.	61608.	61592.	61555.	61498.	61424.	61335.	61233.
61120.	60995.	60861.	60720.	60571.	60416.	60255.	60088.	59914.	59730.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2752.	2748.	2699.	1523.	112336.
INCHES		0.35	1.39	2.35	2.41
AC-FT		1363.	5356.	9065.	9289.

********** ********** ********** ********** **********

PEAK FLOW SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS

PERATION	STATION	PLAN	RATIOS APPLIED TO FLOWS								
			0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	1.00
HYDROGRAPH AT	1	1	5006.	10011.	15017.	20022.	25028.	30034.	35039.	40045.	50056.
		2	0.	0.	0.	0.	0.	0.	0.	0.	0.
ROUTED TO	1	1	253.	506.	739.	882.	1026.	1227.	1497.	1766.	2752.
		2	0.	0.	0.	0.	0.	0.	0.	0.	0.

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**********
EC-1 VERSION DATED JAN 1973
PDATED AUG 74
CHANGE NO. 01
**********
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SKANEATELES LAKE DAM
RESERVOIR ROUTING OF P.M.F. - SNYDER
39 FOOT SPILLWAY

JOB SPECIFICATION

NQ	NHR	NMIN	IDAY	IHR	IMIN	METRC	IPLT	IPRT	NSTAN
150	1	0	0	0	0	0	0	0	0

JOPER	NWT
5	0

MULTI-PLAN ANALYSES TO BE PERFORMED
NPLAN# 1 NRTIO# 9 LRTIO# 1
RTIOS# 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00

********** ********** ********** ********** **********

SUB-AREA RUNOFF COMPUTATION

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
1	0	0	0	0	0	0

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	1	72.30	0.0	72.30	0.0	0.0	0	1	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	21.10	80.00	94.00	106.00	110.00	0.0	0.0

SPC COMPUTED BY THE PROGRAM IS 0.859

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	1.00	0.10	0.0	0.0

UNIT HYDROGRAPH DATA
TP# 9.85 CP#0.63 NTA# 0

RECESSION DATA
STRTQ# 150.00 QRCSN# 150.00 RTIOR# 1.00
ROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC#10.94 AND R# 9.17 INTERVALS

UNIT HYDROGRAPH 55 END-OF-PERIOD ORDINATES, LAG# 9.86 HOURS, CP# 0.63 VOL# 1.00

94.	351.	710.	1123.	1571.	2031.	2441.	2748.	2947.	3031.
2973.	2752.	2468.	2212.	1984.	1778.	1595.	1430.	1282.	1149.
1030.	924.	828.	743.	666.	597.	535.	480.	430.	386.
346.	310.	278.	249.	223.	200.	180.	161.	144.	129.
116.	104.	93.	84.	75.	67.	60.	54.	48.	43.
39.	35.	31.	28.	25.					

END-OF-PERIOD FLOW

TIME	RAIN	EXCS	COMP Q
1	0.01	0.00	150.
2	0.01	0.00	150.
3	0.01	0.00	150.
4	0.01	0.00	150.
5	0.01	0.00	150.
6	0.01	0.00	150.
7	0.02	0.00	150.
8	0.02	0.00	150.
9	0.02	0.00	150.
10	0.02	0.00	150.
11	0.02	0.00	150.
12	0.02	0.00	150.
13	0.05	0.00	150.
14	0.07	0.00	150.
15	0.08	0.00	150.
16	0.21	0.00	150.
17	0.08	0.00	150.
18	0.06	0.00	150.
19	0.01	0.00	150.
20	0.01	0.00	150.
21	0.01	0.00	150.
22	0.01	0.00	150.

24	0.01	0.00	150.
25	0.15	0.00	150.
26	0.15	0.00	150.
27	0.15	0.05	156.
28	0.15	0.05	173.
29	0.15	0.05	207.
30	0.15	0.05	260.
31	0.42	0.32	359.
32	0.42	0.32	550.
33	0.42	0.32	859.
34	0.42	0.32	1295.
35	0.42	0.32	1865.
36	0.42	0.32	2566.
37	1.45	1.35	3474.
38	1.74	1.64	4748.
39	2.18	2.08	6549.
40	5.51	5.41	9317.
41	2.03	1.93	13322.
42	1.60	1.50	18302.
43	0.22	0.12	23834.
44	0.22	0.12	29465.
45	0.22	0.12	34799.
46	0.22	0.12	39352.
47	0.22	0.12	42679.
48	0.22	0.12	44528.
49	0.0	0.0	44833.
50	0.0	0.0	43628.
51	0.0	0.0	41066.
52	0.0	0.0	37764.
53	0.0	0.0	34348.
54	0.0	0.0	31092.
55	0.0	0.0	28101.
56	0.0	0.0	25353.
57	0.0	0.0	22832.
58	0.0	0.0	20527.
59	0.0	0.0	18429.
60	0.0	0.0	16539.
61	0.0	0.0	14844.
62	0.0	0.0	13324.
63	0.0	0.0	11962.
64	0.0	0.0	10740.
65	0.0	0.0	9645.
66	0.0	0.0	8663.
67	0.0	0.0	7783.
68	0.0	0.0	6993.
69	0.0	0.0	6286.
70	0.0	0.0	5651.
71	0.0	0.0	5082.
72	0.0	0.0	4572.
73	0.0	0.0	4115.
74	0.0	0.0	3705.
75	0.0	0.0	3337.
76	0.0	0.0	3008.
77	0.0	0.0	2712.
78	0.0	0.0	2447.
79	0.0	0.0	2210.
80	0.0	0.0	1997.
81	0.0	0.0	1805.
82	0.0	0.0	1633.
83	0.0	0.0	1479.
84	0.0	0.0	1340.
85	0.0	0.0	1216.
86	0.0	0.0	1099.
87	0.0	0.0	993.
88	0.0	0.0	899.

90	0.0	0.0	738.
91	0.0	0.0	670.
92	0.0	0.0	586.
93	0.0	0.0	504.
94	0.0	0.0	420.
95	0.0	0.0	270.
96	0.0	0.0	214.
97	0.0	0.0	174.
98	0.0	0.0	169.
99	0.0	0.0	164.
100	0.0	0.0	160.
101	0.0	0.0	156.
102	0.0	0.0	153.
103	0.0	0.0	150.
104	0.0	0.0	150.
105	0.0	0.0	150.
106	0.0	0.0	150.
107	0.0	0.0	150.
108	0.0	0.0	150.
109	0.0	0.0	150.
110	0.0	0.0	150.
111	0.0	0.0	150.
112	0.0	0.0	150.
113	0.0	0.0	150.
114	0.0	0.0	150.
115	0.0	0.0	150.
116	0.0	0.0	150.
117	0.0	0.0	150.
118	0.0	0.0	150.
119	0.0	0.0	150.
120	0.0	0.0	150.
121	0.0	0.0	150.
122	0.0	0.0	150.
123	0.0	0.0	150.
124	0.0	0.0	150.
125	0.0	0.0	150.
126	0.0	0.0	150.
127	0.0	0.0	150.
128	0.0	0.0	150.
129	0.0	0.0	150.
130	0.0	0.0	150.
131	0.0	0.0	150.
132	0.0	0.0	150.
133	0.0	0.0	150.
134	0.0	0.0	150.
135	0.0	0.0	150.
136	0.0	0.0	150.
137	0.0	0.0	150.
138	0.0	0.0	150.
139	0.0	0.0	150.
140	0.0	0.0	150.
141	0.0	0.0	150.
142	0.0	0.0	150.
143	0.0	0.0	150.
144	0.0	0.0	150.
145	0.0	0.0	150.
146	0.0	0.0	150.
147	0.0	0.0	150.
148	0.0	0.0	150.
149	0.0	0.0	150.
150	0.0	0.0	150.
SUM	20.04	16.75	799063.

PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME

INCHES			5.49	14.19	16.88		17.13		
AC-FT			21175.	54711.	65098.		66067.		

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 1

15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	16.	17.	21.	26.
36.	55.	86.	130.	187.	257.	347.	475.	655.	932.
1332.	1830.	2383.	2946.	3480.	3935.	4268.	4453.	4483.	4363.
4107.	3776.	3435.	3109.	2810.	2535.	2283.	2053.	1843.	1654.
1484.	1332.	1196.	1074.	965.	866.	778.	699.	629.	565.
508.	457.	411.	370.	334.	301.	271.	245.	221.	200.
181.	163.	148.	134.	122.	110.	99.	90.	81.	74.
67.	59.	50.	42.	27.	21.	17.	17.	16.	16.
16.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	4483.	4268.	2757.	1093.	79896.
INCHES		0.55	1.42	1.69	1.71
AC-FT		2117.	5471.	6510.	6606.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 2

30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	31.	35.	41.	52.
72.	110.	172.	259.	373.	513.	695.	950.	1310.	1863.
2664.	3660.	4767.	5893.	6960.	7870.	8536.	8906.	8967.	8726.
8213.	7553.	6869.	6218.	5620.	5071.	4566.	4105.	3686.	3308.
2969.	2665.	2392.	2148.	1929.	1733.	1557.	1399.	1257.	1130.
1016.	914.	823.	741.	667.	602.	542.	489.	442.	399.
361.	327.	296.	268.	243.	220.	199.	180.	163.	148.
134.	117.	101.	84.	54.	43.	35.	34.	33.	32.
31.	31.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	8967.	8536.	5514.	2187.	159796.
INCHES		1.10	2.84	3.38	3.43
AC-FT		4235.	10942.	13019.	13213.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 3

45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	47.	52.	62.	78.
108.	165.	258.	389.	560.	770.	1042.	1424.	1965.	2795.
3997.	5491.	7150.	8839.	10440.	11805.	12804.	13358.	13450.	13088.
12320.	11329.	10304.	9328.	8430.	7606.	6850.	6158.	5529.	4962.
4453.	3997.	3589.	3222.	2894.	2599.	2335.	2098.	1886.	1695.
1525.	1372.	1234.	1111.	1001.	902.	814.	734.	663.	599.
542.	490.	444.	402.	365.	330.	298.	270.	244.	221.
201.	176.	151.	126.	81.	64.	52.	51.	49.	48.
47.	46.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME

INCHES			1.65	4.26	5.06		5.14		
AC-FT			6352.	16413.	19529.		19820.		

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 4

60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	62.	69.	83.	104.
144.	220.	343.	518.	746.	1026.	1390.	1899.	2620.	3727.
5329.	7321.	9533.	11786.	13919.	15741.	17072.	17811.	17933.	17451.
16426.	15106.	13739.	12437.	11240.	10141.	9133.	8211.	7372.	6616.
5938.	5330.	4785.	4296.	3858.	3465.	3113.	2797.	2514.	2260.
2033.	1829.	1646.	1482.	1335.	1203.	1085.	979.	884.	799.
722.	653.	592.	536.	486.	439.	397.	360.	326.	295.
268.	234.	201.	168.	108.	86.	69.	67.	66.	64.
63.	61.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	17933.	17072.	11028.	4374.	319595.
INCHES		2.20	5.68	6.75	6.85
AC-FT		8470.	21884.	26039.	26426.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 5

75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	78.	87.	104.	130.
179.	275.	429.	648.	933.	1283.	1737.	2374.	3274.	4658.
6661.	9151.	11917.	14732.	17399.	19676.	21339.	22264.	22416.	21814.
20533.	18882.	17174.	15546.	14050.	12676.	11416.	10263.	9215.	8270.
7422.	6662.	5981.	5370.	4823.	4332.	3891.	3497.	3143.	2826.
2541.	2286.	2057.	1852.	1669.	1504.	1356.	1224.	1105.	998.
903.	817.	739.	670.	608.	549.	497.	449.	407.	369.
335.	293.	252.	210.	135.	107.	87.	84.	82.	80.
78.	76.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	22416.	21340.	13785.	5467.	399495.
INCHES		2.75	7.09	8.44	8.57
AC-FT		10587.	27355.	32549.	33033.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 6

90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	94.	104.	124.	156.
215.	330.	515.	777.	1119.	1539.	2084.	2849.	3929.	5590.
7993.	10981.	14300.	17679.	20879.	23611.	25607.	26717.	26900.	26177.
24640.	22658.	20608.	18655.	16860.	15212.	13699.	12316.	11058.	9923.
8906.	7995.	7177.	6444.	5787.	5198.	4670.	4196.	3771.	3391.
3049.	2743.	2469.	2223.	2002.	1805.	1627.	1468.	1326.	1198.
1083.	980.	887.	804.	730.	659.	596.	539.	488.	443.
402.	351.	302.	252.	162.	128.	104.	101.	98.	96.
94.	92.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME

INCHES	3.29	8.51	10.13	10.28
AC-FT	12705.	32826.	39058.	39640.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 7

105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	109.	121.	145.	182.
251.	385.	601.	907.	1306.	1796.	2432.	3324.	4584.	6522.
9326.	12812.	16684.	20625.	24359.	27546.	29875.	31170.	31383.	30539.
28746.	26435.	24043.	21764.	19670.	17747.	15982.	14369.	12901.	11577.
10391.	9327.	8373.	7518.	6752.	6064.	5448.	4895.	4400.	3956.
3558.	3200.	2880.	2593.	2336.	2105.	1898.	1713.	1547.	1398.
1264.	1143.	1035.	938.	851.	769.	695.	629.	570.	517.
469.	410.	353.	294.	189.	150.	122.	118.	115.	112.
109.	107.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	31383.	29876.	19298.	7654.	559295.
INCHES		3.84	9.93	11.82	11.99
AC-FT		14822.	38298.	45568.	46247.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 8

120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	125.	139.	166.	208.
287.	440.	687.	1036.	1492.	2053.	2779.	3798.	5239.	7453.
10658.	14642.	19067.	23572.	27839.	31481.	34143.	35622.	35866.	34982.
32853.	30211.	27478.	24874.	22480.	20282.	18266.	16421.	14744.	13231.
11875.	10660.	9570.	8592.	7716.	6931.	6226.	5595.	5029.	4521.
4066.	3658.	3292.	2964.	2670.	2406.	2170.	1958.	1768.	1597.
1444.	1307.	1183.	1072.	973.	879.	795.	719.	651.	590.
536.	469.	463.	336.	216.	171.	139.	135.	131.	128.
125.	122.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	35866.	34145.	22055.	8747.	639194.
INCHES		4.39	11.35	13.51	13.71
AC-FT		16940.	43769.	52078.	52853.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 9

150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	156.	173.	207.	260.
359.	550.	858.	1295.	1865.	2566.	3474.	4748.	6549.	9317.
13322.	18302.	23834.	29464.	34798.	39352.	42679.	44528.	44833.	43628.
41066.	37764.	34347.	31092.	28101.	25353.	22832.	20527.	18429.	16539.
14844.	13324.	11962.	10740.	9645.	8663.	7783.	6993.	6286.	5651.
5082.	4572.	4115.	3705.	3337.	3008.	2712.	2447.	2209.	1997.
1805.	1633.	1479.	1340.	1216.	1099.	993.	899.	814.	738.
670.	586.	584.	420.	270.	214.	174.	169.	164.	160.
156.	153.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.

PEAK 6-HOUR 24-HOUR 72-HOUR TOTAL VOLUME

INCHES	5.49	14.19	16.88	17.13	
AC-FT	21175.	54711.	65097.	66067.	

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HYDROGRAPH ROUTING

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
1	1	0	0	0	0	0

ROUTING DATA

QLOSS	CLOSS	AVG	IRES	ISAME
0.0	0.0	0.0	1	1

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA
1	0	0	0.0	0.0	0.0	-1.

STORAGE#	0.	17328.	34756.	52184.	104368.	208736.	243492.	0.	0.	0.
TFLOW#	0.	353.	747.	1508.	6403.	13313.	17359.	0.	0.	0.

STATION 1, PLAN 1, RTIO 1

15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	16.	16.	16.	17.	18.	19.
21.	24.	27.	32.	37.	43.	50.	57.	65.	72.
79.	86.	92.	97.	102.	106.	110.	113.	116.	119.
122.	124.	126.	127.	129.	130.	131.	132.	133.	134.
135.	135.	136.	136.	137.	137.	137.	137.	138.	138.
138.	138.	138.	138.	138.	138.	138.	138.	138.	137.
137.	137.	137.	137.	137.	137.	136.	136.	136.	136.
136.	135.	135.	135.	135.	135.	134.	134.	134.	134.
134.	133.	133.	133.	133.	133.	132.	132.	132.	132.
132.	131.	131.	131.	131.	131.	130.	130.	130.	130.
130.	129.	129.	129.	129.	129.	128.	128.	128.	128.
128.	128.	127.	127.	127.	127.	127.	126.	126.	126.

STOR

736.	736.	736.	736.	736.	736.	736.	736.	736.	736.
736.	736.	736.	736.	736.	736.	736.	736.	736.	736.
736.	736.	736.	736.	736.	736.	736.	736.	737.	737.
739.	741.	746.	754.	765.	782.	806.	839.	884.	948.
1040.	1168.	1340.	1558.	1821.	2124.	2459.	2815.	3179.	3539.
3883.	4202.	4493.	4755.	4992.	5204.	5394.	5564.	5715.	5850.
5970.	6076.	6170.	6254.	6327.	6392.	6449.	6500.	6543.	6582.
6615.	6644.	6668.	6689.	6707.	6722.	6734.	6744.	6752.	6758.
6763.	6765.	6767.	6767.	6766.	6764.	6762.	6758.	6754.	6749.
6743.	6737.	6730.	6723.	6714.	6705.	6695.	6686.	6676.	6666.
6656.	6646.	6636.	6626.	6616.	6606.	6596.	6587.	6577.	6567.
6557.	6547.	6537.	6528.	6518.	6508.	6498.	6489.	6479.	6469.
6460.	6450.	6441.	6431.	6421.	6412.	6402.	6393.	6383.	6374.
6364.	6355.	6345.	6336.	6326.	6317.	6308.	6298.	6289.	6279.
6270.	6261.	6252.	6242.	6233.	6224.	6214.	6205.	6196.	6187.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	138.	138.	137.	134.	13997.
INCHES		0.02	0.07	0.21	0.30
AC-FT		68.	273.	798.	1157.

STATION 1, PLAN 1, RTIO 2

30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	31.	31.	32.	33.	34.	36.	39.
42.	48.	55.	63.	74.	87.	100.	115.	130.	144.

243.	248.	251.	255.	258.	260.	263.	265.	267.	268.
270.	271.	272.	273.	273.	274.	274.	275.	275.	275.
276.	276.	276.	276.	276.	276.	275.	275.	275.	275.
275.	274.	274.	274.	274.	273.	273.	272.	272.	272.
271.	271.	270.	270.	270.	269.	269.	268.	268.	268.
267.	267.	266.	266.	266.	265.	265.	264.	264.	264.
263.	263.	262.	262.	262.	261.	261.	260.	260.	260.
259.	259.	259.	258.	258.	257.	257.	257.	256.	256.
255.	255.	255.	254.	254.	254.	253.	253.	252.	252.

STOR

1473.	1473.	1473.	1473.	1473.	1473.	1473.	1473.	1473.	1473.
1473.	1473.	1473.	1473.	1473.	1473.	1473.	1473.	1473.	1473.
1473.	1473.	1473.	1473.	1473.	1473.	1473.	1473.	1474.	1475.
1478.	1483.	1492.	1507.	1531.	1565.	1612.	1677.	1767.	1896.
2079.	2337.	2681.	3117.	3642.	4248.	4918.	5630.	6359.	7078.
7766.	8404.	8985.	9510.	9983.	10408.	10788.	11128.	11431.	11700.
11940.	12152.	12341.	12507.	12655.	12785.	12899.	12999.	13087.	13163.
13230.	13287.	13337.	13379.	13415.	13444.	13469.	13489.	13505.	13517.
13525.	13531.	13534.	13534.	13533.	13529.	13524.	13516.	13508.	13498.
13487.	13475.	13461.	13446.	13429.	13410.	13391.	13371.	13352.	13332.
13312.	13292.	13272.	13252.	13233.	13213.	13193.	13173.	13154.	13134.
13114.	13095.	13075.	13056.	13036.	13017.	12997.	12978.	12958.	12939.
12920.	12901.	12881.	12862.	12843.	12824.	12805.	12786.	12767.	12748.
12729.	12710.	12691.	12672.	12653.	12634.	12615.	12597.	12578.	12559.
12541.	12522.	12503.	12485.	12466.	12448.	12429.	12411.	12393.	12374.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	276.	276.	275.	268.	27995.
INCHES		0.04	0.14	0.41	0.60
AC-FT		137.	545.	1597.	2315.

STATION 1, PLAN 1, RTIO 3

45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	46.	46.	47.	48.	49.	51.	54.	58.
64.	71.	82.	95.	111.	130.	150.	172.	194.	216.
237.	257.	275.	291.	305.	318.	330.	340.	349.	358.
366.	373.	380.	385.	390.	395.	399.	402.	405.	408.
410.	412.	413.	415.	416.	417.	418.	419.	419.	419.
420.	420.	420.	420.	420.	420.	420.	419.	419.	419.
418.	418.	417.	417.	416.	416.	415.	414.	414.	413.
412.	412.	411.	410.	410.	409.	408.	407.	407.	406.
405.	405.	404.	403.	403.	402.	401.	401.	400.	399.
399.	398.	397.	397.	396.	396.	395.	394.	394.	393.
392.	392.	391.	390.	390.	389.	388.	388.	387.	386.
386.	385.	385.	384.	383.	383.	382.	381.	381.	380.

STOR

2209.	2209.	2209.	2209.	2209.	2209.	2209.	2209.	2209.	2209.
2209.	2209.	2209.	2209.	2209.	2209.	2209.	2209.	2209.	2209.
2209.	2209.	2209.	2209.	2209.	2209.	2209.	2209.	2210.	2212.
2216.	2224.	2238.	2261.	2296.	2347.	2418.	2516.	2651.	2843.
3119.	3505.	4021.	4675.	5463.	6372.	7377.	8445.	9538.	10618.
11649.	12605.	13477.	14265.	14975.	15611.	16182.	16692.	17146.	17551.
17910.	18228.	18511.	18760.	18981.	19176.	19347.	19497.	19628.	19742.
19842.	19927.	20001.	20064.	20117.	20161.	20197.	20227.	20250.	20267.
20280.	20288.	20292.	20292.	20289.	20283.	20274.	20263.	20249.	20234.
20217.	20198.	20177.	20154.	20128.	20100.	20070.	20040.	20010.	19980.
19950.	19919.	19889.	19859.	19829.	19799.	19769.	19739.	19709.	19679.
19649.	19619.	19589.	19560.	19530.	19501.	19471.	19442.	19412.	19383.
19354.	19324.	19295.	19266.	19237.	19208.	19179.	19150.	19121.	19093.
19064.	19035.	19007.	18978.	18950.	18921.	18893.	18864.	18836.	18808.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	420.	420.	418.	407.	42398.
INCHES		0.05	0.22	0.63	0.91
AC-FT		208.	830.	2425.	3506.

STATION 1, PLAN 1, RTIO 4

60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	61.	61.	62.	64.	66.	68.	72.	77.
85.	95.	109.	127.	148.	173.	200.	229.	259.	288.
316.	342.	368.	391.	413.	432.	449.	464.	478.	490.
501.	511.	519.	527.	533.	539.	544.	549.	553.	556.
559.	562.	564.	566.	567.	568.	570.	570.	571.	572.
572.	572.	572.	572.	572.	572.	572.	571.	571.	570.
570.	569.	569.	568.	567.	566.	565.	564.	563.	562.
562.	561.	560.	559.	558.	557.	556.	555.	554.	553.
552.	551.	550.	550.	549.	548.	547.	546.	545.	544.
543.	542.	541.	540.	540.	539.	538.	537.	536.	535.
534.	533.	532.	532.	531.	530.	529.	528.	527.	526.
525.	525.	524.	523.	522.	521.	520.	519.	519.	518.

STOR

2945.	2945.	2945.	2945.	2945.	2945.	2945.	2945.	2945.	2945.
2945.	2945.	2945.	2945.	2945.	2945.	2945.	2945.	2945.	2945.
2945.	2945.	2945.	2945.	2945.	2945.	2945.	2946.	2947.	2950.
2955.	2965.	2984.	3014.	3061.	3129.	3224.	3354.	3535.	3791.
4159.	4674.	5362.	6233.	7284.	8496.	9837.	11260.	12717.	14157.
15532.	16807.	17970.	19020.	19965.	20814.	21574.	22253.	22858.	23396.
23874.	24297.	24673.	25005.	25298.	25556.	25783.	25982.	26156.	26308.
26439.	26553.	26650.	26732.	26802.	26860.	26907.	26945.	26975.	26997.
27013.	27023.	27027.	27026.	27021.	27012.	26999.	26983.	26964.	26943.
26919.	26893.	26864.	26832.	26797.	26758.	26717.	26676.	26635.	26594.
26553.	26512.	26470.	26429.	26388.	26347.	26306.	26265.	26224.	26183.
26142.	26102.	26061.	26021.	25980.	25940.	25900.	25859.	25819.	25779.
25739.	25699.	25660.	25620.	25580.	25540.	25501.	25462.	25422.	25383.
25344.	25304.	25265.	25226.	25187.	25149.	25110.	25071.	25032.	24994.
24955.	24917.	24878.	24840.	24802.	24764.	24726.	24688.	24650.	24612.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	572.	572.	570.	555.	57655.
INCHES		0.07	0.29	0.86	1.24
AC-FT		284.	1131.	3304.	4767.

STATION 1, PLAN 1, RTIO 5

75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	76.	76.	77.	78.	80.	82.	85.	90.	97.
106.	119.	137.	159.	185.	216.	250.	287.	324.	361.
400.	436.	469.	499.	525.	549.	571.	590.	607.	622.
636.	648.	658.	668.	676.	683.	690.	695.	700.	704.
708.	711.	714.	716.	718.	720.	721.	722.	723.	724.
724.	724.	724.	724.	724.	724.	724.	723.	723.	722.
721.	721.	720.	719.	718.	717.	715.	714.	713.	712.
711.	710.	708.	707.	706.	705.	704.	703.	701.	700.
699.	698.	697.	696.	694.	693.	692.	691.	690.	689.
687.	686.	685.	684.	683.	682.	681.	679.	678.	677.
676.	675.	674.	673.	672.	671.	669.	668.	667.	666.
665.	664.	663.	662.	661.	659.	658.	657.	656.	655.

STOR

3682.	3682.	3682.	3682.	3682.	3682.	3682.	3682.	3682.	3682.
3682.	3682.	3682.	3682.	3682.	3682.	3682.	3682.	3682.	3682.
3682.	3682.	3682.	3682.	3682.	3682.	3682.	3682.	3684.	3687.

5178.	5892.	6782.	7771.	9185.	10629.	12276.	14073.	15876.	17676.
19414.	21008.	22461.	23773.	24954.	26014.	26963.	27811.	28566.	29238.
29834.	30363.	30832.	31246.	31612.	31934.	32217.	32465.	32682.	32870.
33033.	33174.	33295.	33397.	33484.	33555.	33614.	33661.	33697.	33724.
33743.	33754.	33759.	33757.	33750.	33738.	33721.	33701.	33676.	33649.
33618.	33585.	33548.	33507.	33462.	33413.	33362.	33310.	33258.	33205.
33153.	33101.	33048.	32996.	32944.	32892.	32840.	32788.	32736.	32684.
32633.	32581.	32530.	32478.	32427.	32376.	32325.	32274.	32223.	32172.
32122.	32071.	32021.	31970.	31920.	31870.	31820.	31770.	31720.	31670.
31620.	31571.	31521.	31472.	31422.	31373.	31324.	31275.	31226.	31177.
31128.	31079.	31031.	30982.	30934.	30885.	30837.	30789.	30741.	30693.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	724.	724.	721.	703.	72947.
INCHES		0.09	0.37	1.08	1.56
AC-FT		359.	1431.	4183.	6032.

STATION 1, PLAN 1, RTIO 6

90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	91.	91.	92.	94.	96.	99.	102.	108.	116.
127.	143.	164.	190.	223.	260.	301.	344.	393.	441.
488.	531.	571.	606.	638.	667.	693.	716.	736.	761.
792.	820.	844.	866.	885.	901.	916.	928.	939.	949.
957.	964.	970.	975.	979.	982.	985.	987.	989.	990.
990.	990.	990.	989.	989.	988.	986.	985.	983.	981.
979.	977.	975.	972.	969.	966.	963.	960.	957.	954.
951.	948.	945.	942.	939.	936.	933.	930.	927.	924.
921.	918.	915.	912.	909.	906.	903.	900.	897.	894.
891.	888.	885.	882.	880.	877.	874.	871.	868.	865.
863.	860.	857.	854.	852.	849.	846.	843.	841.	838.
835.	833.	830.	827.	825.	822.	819.	817.	814.	811.

STOR

4418.	4418.	4418.	4418.	4418.	4418.	4418.	4418.	4418.	4418.
4418.	4418.	4418.	4418.	4418.	4418.	4418.	4418.	4418.	4418.
4418.	4418.	4418.	4418.	4418.	4418.	4418.	4419.	4421.	4425.
4433.	4448.	4475.	4521.	4592.	4694.	4836.	5031.	5302.	5687.
6238.	7011.	8043.	9350.	10926.	12744.	14755.	16890.	19076.	21234.
23296.	25208.	26950.	28524.	29940.	31212.	32350.	33367.	34273.	35078.
35792.	36424.	36982.	37474.	37907.	38287.	38620.	38910.	39162.	39380.
39567.	39727.	39863.	39976.	40070.	40146.	40207.	40253.	40287.	40310.
40322.	40326.	40321.	40309.	40291.	40266.	40237.	40202.	40163.	40121.
40075.	40025.	39971.	39914.	39850.	39782.	39712.	39641.	39570.	39499.
39429.	39358.	39287.	39216.	39146.	39076.	39006.	38937.	38868.	38799.
38730.	38661.	38593.	38525.	38457.	38390.	38322.	38255.	38189.	38122.
38056.	37990.	37924.	37858.	37793.	37728.	37663.	37598.	37533.	37469.
37405.	37342.	37278.	37215.	37152.	37089.	37026.	36964.	36902.	36840.
36778.	36717.	36655.	36594.	36533.	36473.	36412.	36352.	36292.	36233.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	990.	990.	982.	934.	94794.
INCHES		0.13	0.51	1.44	2.63
AC-FT		491.	1949.	5558.	7838.

STATION 1, PLAN 1, RTIO 7

105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	106.	106.	107.	109.	112.	115.	120.	126.	135.
148.	167.	191.	222.	260.	303.	351.	407.	464.	521.
576.	626.	672.	714.	754.	819.	877.	928.	974.	1015.
1051.	1082.	1110.	1135.	1157.	1176.	1192.	1206.	1219.	1229.
1239.	1244.	1253.	1258.	1262.	1266.	1269.	1270.	1272.	1272.

1256.	1253.	1250.	1246.	1243.	1239.	1235.	1231.	1227.	1223.
1219.	1215.	1211.	1207.	1203.	1199.	1195.	1191.	1187.	1183.
1179.	1176.	1172.	1168.	1164.	1160.	1156.	1153.	1149.	1145.
1141.	1138.	1134.	1130.	1127.	1123.	1119.	1116.	1112.	1108.
1105.	1101.	1097.	1094.	1090.	1087.	1083.	1080.	1076.	1073.
1069.	1066.	1062.	1059.	1055.	1052.	1049.	1045.	1042.	1038.

STOR

5154.	5154.	5154.	5154.	5154.	5154.	5154.	5154.	5154.	5154.
5154.	5154.	5154.	5154.	5154.	5154.	5154.	5154.	5154.	5154.
5154.	5154.	5154.	5154.	5154.	5154.	5154.	5155.	5158.	5162.
5172.	5189.	5221.	5275.	5357.	5476.	5641.	5870.	6186.	6634.
7277.	8179.	9383.	10908.	12747.	14868.	17214.	19705.	22254.	24772.
27177.	29407.	31439.	33275.	34927.	36408.	37731.	38911.	39959.	40888.
41711.	42437.	43078.	43642.	44137.	44570.	44948.	45276.	45560.	45804.
46013.	46190.	46338.	46460.	46559.	46639.	46699.	46744.	46773.	46790.
46795.	46789.	46774.	46750.	46719.	46681.	46637.	46587.	46532.	46473.
46410.	46343.	46271.	46194.	46111.	46023.	45932.	45840.	45748.	45656.
45564.	45473.	45381.	45290.	45199.	45108.	45018.	44928.	44839.	44749.
44660.	44572.	44483.	44395.	44308.	44220.	44133.	44047.	43960.	43874.
43788.	43703.	43617.	43533.	43448.	43364.	43280.	43196.	43113.	43030.
42947.	42864.	42782.	42700.	42619.	42537.	42456.	42376.	42295.	42215.
42135.	42056.	41976.	41898.	41819.	41740.	41662.	41584.	41507.	41430.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1273.	1272.	1262.	1200.	120824.
INCHES		0.16	0.65	1.85	2.59
AC-FT		631.	2505.	7143.	9991.

STATION 1, PLAN 1, RTIO 8

120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	121.	122.	123.	125.	127.	131.	137.	144.	154.
169.	190.	218.	254.	297.	346.	406.	470.	536.	601.
663.	721.	798.	890.	972.	1045.	1111.	1169.	1221.	1267.
1308.	1344.	1375.	1403.	1427.	1449.	1467.	1483.	1497.	1509.
1531.	1549.	1564.	1576.	1586.	1593.	1598.	1602.	1604.	1604.
1604.	1602.	1599.	1596.	1591.	1586.	1580.	1574.	1567.	1560.
1552.	1544.	1535.	1526.	1517.	1507.	1502.	1498.	1493.	1488.
1483.	1478.	1473.	1468.	1463.	1458.	1454.	1449.	1444.	1439.
1435.	1430.	1425.	1420.	1416.	1411.	1406.	1402.	1397.	1392.
1388.	1383.	1379.	1374.	1370.	1365.	1361.	1356.	1352.	1347.
1343.	1339.	1334.	1330.	1325.	1321.	1317.	1312.	1308.	1304.
1300.	1295.	1291.	1287.	1283.	1279.	1274.	1270.	1266.	1262.

STOR

5891.	5891.	5890.	5890.	5890.	5890.	5890.	5890.	5890.	5890.
5890.	5890.	5890.	5890.	5890.	5890.	5890.	5890.	5890.	5890.
5890.	5890.	5890.	5890.	5890.	5890.	5891.	5892.	5894.	5900.
5910.	5930.	5967.	6028.	6122.	6258.	6447.	6708.	7070.	7582.
8317.	9348.	10724.	12466.	14568.	16992.	19673.	22520.	25432.	28309.
31057.	33606.	35927.	38020.	39900.	41584.	43088.	44427.	45616.	46669.
47600.	48421.	49145.	49781.	50338.	50824.	51247.	51614.	51930.	52200.
52429.	52621.	52780.	52908.	53010.	53089.	53146.	53184.	53206.	53212.
53205.	53187.	53157.	53118.	53071.	53016.	52955.	52887.	52814.	52736.
52654.	52567.	52476.	52380.	52277.	52168.	52057.	51944.	51831.	51719.
51607.	51495.	51383.	51271.	51160.	51049.	50939.	50829.	50719.	50610.
50501.	50392.	50284.	50177.	50069.	49962.	49856.	49750.	49644.	49539.
49434.	49329.	49225.	49121.	49018.	48914.	48812.	48709.	48607.	48506.
48404.	48304.	48203.	48103.	48003.	47904.	47805.	47706.	47607.	47509.
47412.	47314.	47217.	47121.	47025.	46929.	46833.	46738.	46643.	46548.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1604.	1603.	1576.	1475.	147798.

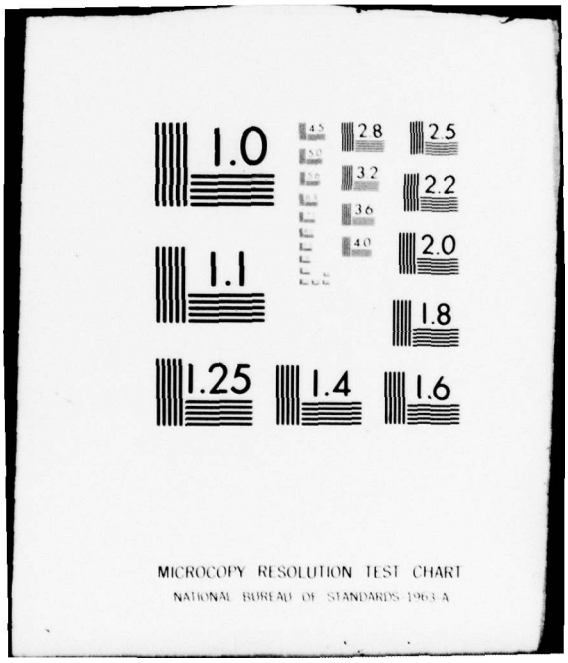
AD-A072 137 NEW YORK STATE DEPT OF ENVIRONMENTAL CONSERVATION ALBANY F/G 13/2
NATIONAL DAM SAFETY PROGRAM. SKANEATELES LAKE DAM (NY414), OSWE--ETC(U)
SEP 78 J B STETSON DACW51-78-C-0035

UNCLASSIFIED NL

2 OF 2
AD A072137



END
DATE FILMED
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1.0
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3.6
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2.0
1.8
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A

AC-FT 793. 3128. 8783. 12221.

STATION 1, PLAN 1, RTIO 9

150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
151.	151.	152.	154.	156.	159.	164.	171.	180.	193.
212.	238.	273.	317.	373.	441.	517.	598.	686.	774.
924.	1063.	1189.	1302.	1404.	1496.	1656.	1810.	1947.	2067.
2172.	2264.	2344.	2414.	2474.	2525.	2569.	2607.	2638.	2663.
2684.	2701.	2714.	2723.	2729.	2732.	2733.	2732.	2729.	2724.
2718.	2710.	2701.	2691.	2680.	2669.	2656.	2643.	2629.	2615.
2600.	2585.	2569.	2553.	2536.	2518.	2500.	2482.	2464.	2446.
2429.	2411.	2394.	2376.	2359.	2342.	2325.	2308.	2292.	2275.
2259.	2242.	2226.	2210.	2194.	2179.	2163.	2147.	2132.	2117.
2101.	2086.	2071.	2057.	2042.	2027.	2013.	1998.	1984.	1970.
1956.	1942.	1928.	1914.	1901.	1887.	1874.	1860.	1847.	1834.
1821.	1808.	1795.	1783.	1770.	1758.	1745.	1733.	1721.	1709.

STOR

7363.	7363.	7363.	7363.	7363.	7363.	7363.	7363.	7363.	7363.
7363.	7363.	7363.	7363.	7363.	7363.	7363.	7363.	7363.	7363.
7363.	7363.	7363.	7363.	7363.	7363.	7363.	7365.	7368.	7375.
7388.	7413.	7459.	7535.	7653.	7823.	8059.	8385.	8837.	9477.
10396.	11684.	13484.	15582.	18209.	21248.	24598.	28147.	31787.	35382.
38812.	41987.	44874.	47475.	49809.	51898.	53759.	55408.	56862.	58141.
59263.	60244.	61098.	61840.	62480.	63030.	63499.	63896.	64228.	64502.
64724.	64901.	65036.	65134.	65200.	65237.	65247.	65234.	65201.	65150.
65082.	65000.	64905.	64798.	64682.	64557.	64423.	64282.	64135.	63983.
63825.	63663.	63495.	63322.	63140.	62951.	62760.	62568.	62377.	62188.
61999.	61812.	61626.	61441.	61258.	61076.	60896.	60717.	60539.	60363.
60188.	60014.	59842.	59671.	59501.	59333.	59166.	59000.	58836.	58673.
58511.	58350.	58191.	58032.	57875.	57720.	57565.	57412.	57260.	57109.
56959.	56810.	56662.	56516.	56371.	56227.	56084.	55942.	55801.	55661.
55523.	55385.	55248.	55113.	54979.	54845.	54713.	54581.	54451.	54322.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2733.	2730.	2684.	2411.	231565.
INCHES		0.35	1.38	3.72	4.97
AC-FT		1354.	5327.	14354.	19147.

********** ********** ********** ********** **********

PEAK FLOW SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS

			RATIOS APPLIED TO FLOWS								
RATION	STATION	PLAN	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	1.00
DROGRAPH AT	1	1	4483.	8967.	13450.	17933.	22416.	26900.	31383.	35866.	44833.
		2	0.	0.	0.	0.	0.	0.	0.	0.	0.
TED TO	1	1	138.	276.	420.	572.	724.	990.	1273.	1604.	2733.
		2	0.	0.	0.	0.	0.	0.	0.	0.	0.

.....

****
EC-1 VERSION DATED JAN 1973
PDATED AUG 74
CHANGE NO. 01
****

SKANEATELES LAKE DAM
RESERVOIR ROUTING OF P.M.F. - CLARK METHOD
39 FOOT SPILLWAY

JOB SPECIFICATION

NQ	NHR	NMIN	IDAY	IHR	IMIN	METRC	IPLT	IPRT	NSTAN
150	1	0	0	0	0	0	0	0	0

JOPER	NWT
5	0

MULTI-PLAN ANALYSES TO BE PERFORMED
NPLAN= 1 MRTIO= 9 LRTIO= 1
RTIOS= 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00

********** ********** ********** ********** **********

SUB-AREA RUNOFF COMPUTATION

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
1	0	0	0	0	0	0

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	0	72.30	0.0	72.30	0.0	0.0	0	1	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	21.10	80.00	94.00	106.00	110.00	0.0	0.0

RSPC COMPUTED BY THE PROGRAM IS 0.859

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	1.00	0.10	0.0	0.0

UNIT HYDROGRAPH DATA
TC= 8.50 R= 8.50 NTA= 0

RECESSION DATA
STRTQ= 150.00 QRCSN= 150.00 RTIOR= 1.00

UNIT HYDROGRAPH 50 END-OF-PERIOD ORDINATES, LAG= 7.74 HOURS, CP= 0.57 VOL= 1.00

148.	550.	1109.	1750.	2410.	2966.	3333.	3495.	3378.	3055.
2716.	2414.	2146.	1907.	1695.	1507.	1339.	1191.	1058.	941.
836.	743.	661.	587.	522.	464.	412.	367.	326.	290.
258.	229.	203.	181.	161.	143.	127.	113.	100.	89.
79.	70.	63.	56.	50.	44.	39.	35.	31.	27.

END-OF-PERIOD FLOW

TIME	RAIN	EXCS	COMP Q
1	0.01	0.00	150

3	0.01	0.00	150.
4	0.01	0.00	150.
5	0.01	0.00	150.
6	0.01	0.00	150.
7	0.02	0.00	150.
8	0.02	0.00	150.
9	0.02	0.00	150.
10	0.02	0.00	150.
11	0.02	0.00	150.
12	0.02	0.00	150.
13	0.05	0.00	150.
14	0.07	0.00	150.
15	0.08	0.00	150.
16	0.21	0.00	150.
17	0.08	0.00	150.
18	0.06	0.00	150.
19	0.01	0.00	150.
20	0.01	0.00	150.
21	0.01	0.00	150.
22	0.01	0.00	150.
23	0.01	0.00	150.
24	0.01	0.00	150.
25	0.15	0.00	150.
26	0.15	0.00	151.
27	0.15	0.05	159.
28	0.15	0.05	187.
29	0.15	0.05	240.
30	0.15	0.05	321.
31	0.42	0.32	474.
32	0.42	0.32	762.
33	0.42	0.32	1221.
34	0.42	0.32	1864.
35	0.42	0.32	2684.
36	0.42	0.32	3645.
37	1.45	1.35	4844.
38	1.74	1.64	6530.
39	2.18	2.08	8927.
40	5.51	5.41	12713.
41	2.03	1.93	18328.
42	1.60	1.50	25294.
43	0.22	0.12	32819.
44	0.22	0.12	39956.
45	0.22	0.12	45623.
46	0.22	0.12	49056.
47	0.22	0.12	50056.
48	0.22	0.12	48584.
49	0.0	0.0	45296.
50	0.0	0.0	41291.
51	0.0	0.0	37262.
52	0.0	0.0	33518.
53	0.0	0.0	30089.
54	0.0	0.0	26945.
55	0.0	0.0	24069.
56	0.0	0.0	21449.
57	0.0	0.0	19089.
58	0.0	0.0	16984.
59	0.0	0.0	15114.
60	0.0	0.0	13451.
61	0.0	0.0	11973.
62	0.0	0.0	10660.
63	0.0	0.0	9492.
64	0.0	0.0	8454.
65	0.0	0.0	7531.
66	0.0	0.0	6711.
67	0.0	0.0	5982.

69	0.0	0.0	4758.
70	0.0	0.0	4246.
71	0.0	0.0	3791.
72	0.0	0.0	3386.
73	0.0	0.0	3027.
74	0.0	0.0	2707.
75	0.0	0.0	2423.
76	0.0	0.0	2170.
77	0.0	0.0	1945.
78	0.0	0.0	1744.
79	0.0	0.0	1566.
80	0.0	0.0	1408.
81	0.0	0.0	1268.
82	0.0	0.0	1129.
83	0.0	0.0	1012.
84	0.0	0.0	908.
85	0.0	0.0	816.
86	0.0	0.0	734.
87	0.0	0.0	636.
88	0.0	0.0	542.
89	0.0	0.0	448.
90	0.0	0.0	283.
91	0.0	0.0	221.
92	0.0	0.0	177.
93	0.0	0.0	171.
94	0.0	0.0	166.
95	0.0	0.0	161.
96	0.0	0.0	157.
97	0.0	0.0	153.
98	0.0	0.0	150.
99	0.0	0.0	150.
100	0.0	0.0	150.
101	0.0	0.0	150.
102	0.0	0.0	150.
103	0.0	0.0	150.
104	0.0	0.0	150.
105	0.0	0.0	150.
106	0.0	0.0	150.
107	0.0	0.0	150.
108	0.0	0.0	150.
109	0.0	0.0	150.
110	0.0	0.0	150.
111	0.0	0.0	150.
112	0.0	0.0	150.
113	0.0	0.0	150.
114	0.0	0.0	150.
115	0.0	0.0	150.
116	0.0	0.0	150.
117	0.0	0.0	150.
118	0.0	0.0	150.
119	0.0	0.0	150.
120	0.0	0.0	150.
121	0.0	0.0	150.
122	0.0	0.0	150.
123	0.0	0.0	150.
124	0.0	0.0	150.
125	0.0	0.0	150.
126	0.0	0.0	150.
127	0.0	0.0	150.
128	0.0	0.0	150.
129	0.0	0.0	150.
130	0.0	0.0	150.
131	0.0	0.0	150.
132	0.0	0.0	150.

135	0.0	0.0	150.
136	0.0	0.0	150.
137	0.0	0.0	150.
138	0.0	0.0	150.
139	0.0	0.0	150.
140	0.0	0.0	150.
141	0.0	0.0	150.
142	0.0	0.0	150.
143	0.0	0.0	150.
144	0.0	0.0	150.
145	0.0	0.0	150.
146	0.0	0.0	150.
147	0.0	0.0	150.
148	0.0	0.0	150.
149	0.0	0.0	150.
150	0.0	0.0	150.
SUM	20.04	16.75	798977.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	50056.	46651.	28296.	10934.	798975.
INCHES		6.00	14.56	16.88	17.13
AC-FT		23145.	56154.	65098.	66065.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 1

15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	16.	19.	24.	32.
47.	76.	122.	186.	268.	364.	484.	653.	893.	1271.
1833.	2529.	3282.	3996.	4562.	4906.	5006.	4858.	4530.	4129.
3726.	3352.	3009.	2695.	2407.	2145.	1909.	1698.	1511.	1345.
1197.	1066.	949.	845.	753.	671.	598.	533.	476.	425.
379.	339.	303.	271.	242.	217.	194.	174.	157.	141.
126.	113.	101.	91.	82.	73.	64.	54.	45.	28.
22.	18.	17.	17.	16.	16.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	5006.	4665.	2830.	1093.	79893.
INCHES		0.60	1.46	1.69	1.71
AC-FT		2314.	5615.	6510.	6606.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 2

30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	32.	37.	48.	64.
95.	152.	244.	373.	537.	729.	969.	1306.	1785.	2543.
3666.	5059.	6564.	7991.	9125.	9811.	10011.	9717.	9059.	8258.
7452.	6704.	6018.	5389.	4814.	4290.	3818.	3397.	3023.	2690.
2395.	2132.	1898.	1691.	1506.	1342.	1196.	1067.	952.	849.
758.	677.	605.	541.	485.	434.	389.	349.	313.	282.
252.	226.	202.	182.	163.	147.	127.	108.	90.	57.
44.	35.	34.	33.	32.	31.	31.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	10011	[illegible]	[illegible]	[illegible]	[illegible]

AC-FT			4629.	11231.	13019.		13213.		

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 3

45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	48.	56.	72.	96.
142.	228.	366.	559.	805.	1093.	1453.	1959.	2678.	3814.
5498.	7588.	9846.	11987.	13687.	14717.	15017.	14575.	13589.	12387.
11178.	10055.	9027.	8004.	7221.	6435.	5727.	5095.	4534.	4035.
3592.	3198.	2848.	2536.	2259.	2013.	1795.	1600.	1427.	1274.
1137.	1016.	908.	812.	727.	651.	583.	523.	470.	422.
378.	339.	304.	273.	245.	220.	191.	163.	134.	85.
66.	53.	51.	50.	48.	47.	46.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	15017.	13995.	8489.	3280.	239688.
INCHES		1.80	4.37	5.06	5.14
AC-FT		6943.	16846.	19529.	19819.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 4

60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	64.	75.	96.	129.
189.	305.	488.	746.	1074.	1458.	1938.	2612.	3571.	5085.
7331.	10118.	13127.	15983.	18249.	19622.	20022.	19434.	18118.	16516.
14905.	13407.	12036.	10778.	9627.	8580.	7635.	6794.	6046.	5380.
4789.	4264.	3797.	3382.	3012.	2684.	2393.	2134.	1903.	1698.
1516.	1355.	1211.	1083.	969.	868.	778.	698.	626.	563.
504.	451.	405.	363.	327.	294.	265.	217.	179.	113.
88.	71.	68.	66.	64.	63.	61.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	20022.	18660.	11318.	4374.	319585.
INCHES		2.40	5.83	6.75	6.85
AC-FT		9258.	22461.	26039.	26426.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 5

75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	80.	93.	120.	161.
237.	381.	610.	932.	1342.	1822.	2422.	3265.	4464.	6357.
9164.	12647.	16409.	19978.	22812.	24528.	25028.	24292.	22648.	20646.
18631.	16759.	15045.	13473.	12034.	10725.	9544.	8492.	7557.	6726.
5987.	5330.	4746.	4227.	3766.	3356.	2991.	2667.	2379.	2123.
1895.	1693.	1513.	1354.	1212.	1085.	972.	872.	783.	704.
630.	564.	506.	454.	408.	367.	330.	271.	224.	141.
110.	88.	85.	83.	80.	78.	77.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

AC-FT			11572.	20877.	32549.		33032.		

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 6

90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	96.	112.	144.	193.
284.	457.	732.	1118.	1611.	2187.	2906.	3918.	5356.	7628.
10997.	15177.	19691.	23974.	27374.	29433.	30034.	29150.	27178.	24775.
22357.	20111.	18054.	16167.	14441.	12869.	11453.	10191.	9068.	8071.
7184.	6396.	5695.	5072.	4519.	4027.	3589.	3200.	2855.	2548.
2275.	2032.	1816.	1624.	1454.	1302.	1167.	1047.	940.	845.
756.	677.	607.	545.	490.	441.	382.	325.	269.	170.
133.	106.	102.	99.	97.	94.	92.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	30034.	27991.	16978.	6561.	479380.
INCHES		3.60	8.74	10.13	10.28
AC-FT		13887.	33692.	39058.	39639.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 7

105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	111.	131.	168.	225.
332.	533.	854.	1305.	1879.	2551.	3391.	4571.	6249.	8899.
12829.	17706.	22973.	27969.	31936.	34339.	35039.	34089.	31707.	28904.
26083.	23462.	21063.	18862.	16848.	15014.	13362.	11889.	10580.	9416.
8381.	7462.	6644.	5918.	5272.	4698.	4187.	3734.	3331.	2972.
2654.	2370.	2119.	1895.	1696.	1519.	1361.	1221.	1096.	985.
882.	790.	708.	636.	571.	514.	446.	380.	314.	198.
155.	124.	120.	116.	113.	110.	107.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	35039.	32656.	19807.	7654.	559278.
INCHES		4.20	10.19	11.82	11.99
AC-FT		16201.	39308.	45568.	46245.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 8

120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	121.	127.	149.	192.	257.
379.	609.	977.	1491.	2148.	2916.	3875.	5224.	7142.	10170.
14662.	20236.	26255.	31965.	36498.	39245.	40045.	38867.	36237.	33033.
29089.	26814.	24071.	21556.	19255.	17159.	15271.	13587.	12091.	10761.
9579.	8528.	7593.	6763.	6025.	5369.	4784.	4267.	3806.	3397.
3033.	2709.	2421.	2166.	1938.	1736.	1556.	1395.	1253.	1126.
1008.	903.	810.	727.	653.	587.	509.	434.	358.	226.
177.	141.	137.	132.	129.	125.	123.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME

AC-FT	18516.	44923.	52078.		52852.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 9

150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	151.	159.	187.	240.	321.
474.	762.	1221.	1864.	2684.	3645.	4844.	6530.	8927.	12713.
18328.	25294.	32818.	39956.	45623.	49856.	50056.	48584.	45296.	41291.
37261.	33518.	30089.	26945.	24069.	21449.	19089.	16984.	15114.	13451.
11973.	10660.	9492.	8454.	7531.	6711.	5982.	5334.	4758.	4246.
3791.	3386.	3027.	2707.	2423.	2170.	1945.	1744.	1566.	1408.
1268.	1129.	1012.	908.	816.	734.	636.	542.	448.	283.
221.	177.	171.	166.	161.	157.	153.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	50056.	46651.	28296.	10934.	798969.
INCHES		6.00	14.56	16.88	17.13
AC-FT		23145.	56154.	65097.	66065.

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HYDROGRAPH ROUTING

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
1	1	0	0	0	0	0

ROUTING DATA

QLOSS	CLOSS	AVG	IRES	ISAME
0.0	0.0	0.0	1	1

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA
1	0	0	0.0	0.0	0.0	-1.

STORAGE#	0.	17328.	34756.	52184.	104368.	208736.	243492.	0.	0.	0.
OUTFLOW#	0.	353.	747.	1508.	6463.	13313.	17359.	0.	0.	0.

STATION 1, PLAN 1, RTIO 1

15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
15.	15.	15.	16.	16.	16.	17.	18.	19.	21.
24.	27.	32.	38.	45.	53.	61.	70.	77.	85.
91.	97.	102.	107.	111.	114.	118.	120.	123.	125.
127.	129.	130.	132.	133.	134.	134.	135.	136.	136.
137.	137.	137.	138.	138.	138.	138.	138.	138.	138.
138.	138.	138.	138.	138.	138.	138.	138.	138.	137.
137.	137.	137.	137.	136.	136.	136.	136.	136.	135.
135.	135.	135.	135.	134.	134.	134.	134.	134.	133.
133.	133.	133.	133.	132.	132.	132.	132.	132.	131.
131.	131.	131.	131.	130.	130.	130.	130.	130.	129.
129.	129.	129.	129.	129.	128.	128.	128.	128.	128.
127.	127.	127.	127.	127.	126.	126.	126.	126.	126.

STOR

736.	736.	736.	736.	736.	736.	736.	736.	736.	736.
736.	736.	736.	736.	736.	736.	736.	736.	736.	736.
736.	736.	736.	736.	736.	736.	736.	737.	737.	738.
740.	744.	751.	762.	780.	805.	838.	884.	946.	1034.
1161.	1339.	1576.	1874.	2224.	2612.	3016.	3419.	3800.	4151.

6715.	6733.	6749.	6761.	6771.	6778.	6784.	6788.	6790.	6791.
6790.	6789.	6786.	6783.	6778.	6773.	6768.	6761.	6754.	6745.
6736.	6727.	6717.	6707.	6697.	6687.	6677.	6667.	6657.	6647.
6637.	6627.	6617.	6607.	6597.	6587.	6578.	6568.	6558.	6548.
6538.	6529.	6519.	6509.	6499.	6490.	6480.	6470.	6461.	6451.
6441.	6432.	6422.	6413.	6403.	6394.	6384.	6375.	6365.	6356.
6346.	6337.	6327.	6318.	6308.	6299.	6290.	6280.	6271.	6262.
6252.	6243.	6234.	6225.	6215.	6206.	6197.	6188.	6179.	6169.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	138.	138.	138.	134.	14205.
INCHES		0.02	0.07	0.21	0.30
AC-FT		69.	273.	800.	1175.

STATION 1, PLAN 1, RTIO 2

30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	31.	31.	32.	33.	34.	36.	39.	42.
47.	55.	64.	76.	91.	106.	123.	139.	155.	169.
182.	194.	204.	213.	222.	229.	235.	241.	246.	250.
254.	258.	260.	263.	265.	267.	269.	270.	272.	273.
274.	274.	275.	275.	276.	276.	276.	277.	277.	277.
277.	277.	276.	276.	276.	276.	276.	275.	275.	275.
274.	274.	274.	273.	273.	272.	272.	272.	271.	271.
270.	270.	270.	269.	269.	268.	268.	268.	267.	267.
266.	266.	266.	265.	265.	264.	264.	264.	263.	263.
262.	262.	262.	261.	261.	261.	260.	260.	259.	259.
259.	258.	258.	257.	257.	257.	256.	256.	256.	255.
255.	254.	254.	254.	253.	253.	252.	252.	252.	251.

STOR

1473.	1473.	1473.	1473.	1473.	1473.	1473.	1473.	1473.	1473.
1473.	1473.	1473.	1473.	1473.	1473.	1473.	1473.	1473.	1473.
1473.	1473.	1473.	1473.	1473.	1473.	1473.	1473.	1474.	1476.
1480.	1488.	1502.	1525.	1560.	1610.	1677.	1768.	1893.	2068.
2321.	2677.	3153.	3748.	4449.	5223.	6033.	6837.	7601.	8303.
8938.	9507.	10016.	10470.	10874.	11232.	11547.	11826.	12071.	12287.
12476.	12642.	12787.	12914.	13024.	13120.	13202.	13273.	13334.	13386.
13430.	13467.	13497.	13522.	13541.	13557.	13568.	13575.	13580.	13582.
13581.	13578.	13572.	13566.	13557.	13547.	13535.	13522.	13508.	13491.
13473.	13453.	13433.	13414.	13394.	13374.	13354.	13334.	13314.	13294.
13274.	13254.	13234.	13215.	13195.	13175.	13155.	13136.	13116.	13097.
13077.	13058.	13038.	13019.	12999.	12980.	12960.	12941.	12922.	12902.
12883.	12864.	12845.	12826.	12807.	12788.	12769.	12750.	12731.	12712.
12693.	12674.	12655.	12636.	12617.	12599.	12580.	12561.	12542.	12524.
12505.	12487.	12468.	12450.	12431.	12413.	12394.	12376.	12358.	12339.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	277.	277.	275.	269.	28411.
INCHES		0.04	0.14	0.42	0.61
AC-FT		137.	547.	1600.	2349.

STATION 1, PLAN 1, RTIO 3

45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	45.	45.	45.	45.	45.	45.	45.	45.
45.	45.	46.	47.	48.	49.	51.	54.	58.	63.
71.	82.	96.	115.	136.	160.	184.	209.	232.	254.
273.	291.	306.	320.	332.	343.	353.	362.	371.	378.
384.	390.	395.	399.	403.	406.	409.	411.	413.	415.
417.	418.	419.	420.	420.	421.	421.	421.	422.	422.
422.	421.	421.	421.	421.	420.	420.	420.	419.	418.
418.	417.	416.	416.	415.	414.	414.	413.	412.	412.

398.	397.	396.	396.	395.	394.	394.	393.	392.	392.
391.	390.	390.	389.	388.	388.	387.	386.	386.	385.
385.	384.	383.	383.	382.	381.	381.	380.	380.	379.

STOR

2209.	2209.	2209.	2209.	2209.	2209.	2209.	2209.	2209.	2209.
2209.	2209.	2209.	2209.	2209.	2209.	2209.	2209.	2209.	2209.
2209.	2209.	2209.	2209.	2209.	2209.	2209.	2210.	2211.	2214.
2221.	2232.	2253.	2287.	2340.	2414.	2515.	2652.	2839.	3102.
3482.	4016.	4729.	5622.	6673.	7835.	9049.	10256.	11401.	12454.
13406.	14261.	15024.	15706.	16311.	16847.	17321.	17739.	18106.	18430.
18713.	18962.	19179.	19369.	19534.	19677.	19801.	19907.	19998.	20075.
20141.	20195.	20240.	20277.	20305.	20328.	20344.	20355.	20361.	20363.
20361.	20356.	20348.	20337.	20323.	20308.	20290.	20270.	20248.	20222.
20194.	20164.	20134.	20104.	20073.	20043.	20013.	19982.	19952.	19922.
19891.	19861.	19831.	19801.	19771.	19741.	19711.	19681.	19651.	19621.
19592.	19562.	19532.	19503.	19473.	19444.	19414.	19385.	19356.	19327.
19297.	19268.	19239.	19210.	19181.	19152.	19124.	19095.	19066.	19037.
19009.	18980.	18952.	18923.	18895.	18866.	18838.	18810.	18782.	18753.
18725.	18697.	18669.	18641.	18613.	18586.	18558.	18530.	18502.	18475.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	422.	421.	420.	408.	43035.
INCHES		0.05	0.22	0.63	0.92
AC-FT		209.	833.	2431.	3558.

STATION 1, PLAN 1, RTIO 4

60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	60.	60.	60.	60.	60.	60.	60.	60.	60.
60.	61.	61.	62.	64.	66.	68.	72.	77.	84.
95.	109.	128.	153.	181.	213.	246.	279.	310.	338.
365.	391.	414.	435.	453.	469.	483.	496.	507.	517.
525.	533.	539.	545.	550.	554.	558.	561.	564.	566.
568.	570.	571.	572.	573.	573.	574.	574.	574.	574.
574.	574.	574.	574.	573.	573.	572.	571.	571.	570.
569.	568.	567.	566.	565.	564.	563.	563.	562.	561.
560.	559.	558.	557.	556.	555.	554.	553.	552.	551.
550.	550.	549.	548.	547.	546.	545.	544.	543.	542.
541.	541.	540.	539.	538.	537.	536.	535.	534.	533.
533.	532.	531.	530.	529.	528.	527.	526.	525.	525.
524.	523.	522.	521.	520.	519.	519.	518.	517.	516.

STOR

2945.	2945.	2945.	2945.	2945.	2945.	2945.	2945.	2945.	2945.
2945.	2945.	2945.	2945.	2945.	2945.	2945.	2945.	2945.	2945.
2945.	2945.	2945.	2945.	2945.	2945.	2945.	2946.	2948.	2953.
2961.	2976.	3004.	3050.	3120.	3219.	3354.	3536.	3785.	4136.
4642.	5355.	6305.	7497.	8897.	10446.	12065.	13674.	15201.	16606.
17875.	19014.	20032.	20940.	21746.	22460.	23091.	23647.	24136.	24566.
24943.	25273.	25562.	25814.	26033.	26223.	26387.	26527.	26648.	26750.
26836.	26907.	26966.	27014.	27051.	27080.	27100.	27114.	27121.	27123.
27120.	27112.	27099.	27084.	27065.	27043.	27019.	26991.	26960.	26925.
26886.	26846.	26805.	26763.	26722.	26680.	26639.	26597.	26556.	26515.
26473.	26432.	26391.	26350.	26309.	26268.	26227.	26186.	26145.	26105.
26064.	26023.	25983.	25943.	25902.	25862.	25822.	25782.	25742.	25702.
25662.	25622.	25583.	25543.	25504.	25464.	25425.	25386.	25346.	25307.
25268.	25229.	25190.	25151.	25112.	25074.	25035.	24996.	24958.	24919.
24881.	24843.	24805.	24766.	24728.	24690.	24652.	24614.	24577.	24539.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	574.	574.	572.	556.	58527.
INCHES		0.07	0.29	0.86	1.26
AC-FT		285.	1134.	3312.	4839.

75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	75.
75.	76.	76.	78.	79.	82.	85.	90.	96.	105.
118.	136.	161.	191.	227.	266.	307.	348.	391.	431.
466.	499.	527.	553.	576.	596.	614.	629.	643.	655.
666.	675.	683.	690.	697.	702.	707.	711.	714.	717.
719.	721.	723.	724.	725.	726.	727.	727.	727.	727.
727.	727.	726.	726.	725.	725.	724.	723.	722.	721.
720.	719.	718.	717.	716.	714.	713.	712.	711.	710.
708.	707.	706.	705.	704.	703.	701.	700.	699.	698.
697.	696.	694.	693.	692.	691.	690.	689.	688.	686.
685.	684.	683.	682.	681.	680.	678.	677.	676.	675.
674.	673.	672.	671.	669.	668.	667.	666.	665.	664.
663.	662.	661.	660.	658.	657.	656.	655.	654.	653.

STOR

3682.	3682.	3682.	3682.	3682.	3682.	3682.	3682.	3682.	3682.
3682.	3682.	3682.	3682.	3682.	3682.	3682.	3682.	3682.	3682.
3682.	3682.	3682.	3682.	3682.	3682.	3682.	3683.	3685.	3691.
3701.	3720.	3755.	3812.	3900.	4024.	4192.	4420.	4732.	5170.
5803.	6693.	7882.	9371.	11122.	13058.	15082.	17093.	19002.	20757.
22343.	23765.	25037.	26171.	27178.	28070.	28858.	29552.	30162.	30699.
31169.	31582.	31942.	32256.	32529.	32765.	32969.	33144.	33294.	33421.
33528.	33617.	33689.	33748.	33794.	33829.	33854.	33870.	33878.	33880.
33875.	33864.	33848.	33828.	33804.	33776.	33744.	33709.	33669.	33625.
33576.	33524.	33472.	33420.	33367.	33315.	33262.	33210.	33157.	33104.
33052.	33000.	32948.	32895.	32843.	32791.	32740.	32688.	32636.	32585.
32533.	32482.	32431.	32380.	32329.	32278.	32227.	32176.	32125.	32075.
32024.	31974.	31923.	31873.	31823.	31773.	31723.	31673.	31624.	31574.
31524.	31475.	31426.	31376.	31327.	31278.	31229.	31180.	31131.	31083.
31034.	30985.	30937.	30889.	30840.	30792.	30744.	30696.	30648.	30600.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	727.	727.	724.	704.	74051.
INCHES		0.09	0.37	1.09	1.59
AC-FT		361.	1436.	4193.	6123.

STATION 1, PLAN 1, RTIO 6

90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	91.	92.	93.	95.	98.	102.	108.	116.	126.
142.	164.	193.	229.	272.	319.	370.	425.	477.	524.
567.	606.	640.	671.	698.	723.	744.	778.	809.	837.
862.	883.	902.	918.	932.	944.	954.	963.	970.	977.
982.	986.	989.	992.	994.	995.	996.	997.	997.	996.
996.	995.	993.	992.	990.	988.	986.	984.	981.	979.
976.	973.	969.	966.	963.	960.	957.	954.	951.	948.
945.	941.	938.	935.	932.	929.	926.	923.	920.	917.
914.	911.	908.	905.	902.	899.	897.	894.	891.	888.
885.	882.	879.	876.	874.	871.	868.	865.	862.	860.
857.	854.	851.	849.	846.	843.	840.	838.	835.	832.
830.	827.	824.	822.	819.	816.	814.	811.	809.	806.

STOR

4418.	4418.	4418.	4418.	4418.	4418.	4418.	4418.	4418.	4418.
4418.	4418.	4418.	4418.	4418.	4418.	4418.	4418.	4418.	4418.
4418.	4418.	4418.	4418.	4418.	4418.	4418.	4419.	4422.	4429.
4441.	4464.	4506.	4575.	4680.	4829.	5031.	5304.	5678.	6205.
6963.	8032.	9458.	11245.	13346.	15669.	18098.	20511.	22801.	24906.
26809.	28515.	30041.	31401.	32609.	33679.	34623.	35455.	36185.	36825.
37385.	37874.	38300.	38670.	38990.	39265.	39501.	39703.	39873.	40016.
40134.	40231.	40308.	40369.	40414.	40445.	40465.	40474.	40474.	40465.
40449.	40424.	40387.	40343.	40293.	40238.	40180.	40120.	40060.	40001.

39279.	39209.	39139.	39069.	38999.	38929.	38860.	38791.	38722.	38654.
38586.	38518.	38450.	38382.	38315.	38248.	38181.	38115.	38048.	37982.
37916.	37851.	37786.	37720.	37656.	37591.	37526.	37462.	37398.	37335.
37271.	37208.	37145.	37082.	37019.	36957.	36895.	36833.	36771.	36710.
36649.	36588.	36527.	36466.	36406.	36346.	36286.	36226.	36166.	36107.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	997.	996.	988.	937.	96293.
INCHES		0.13	0.51	1.45	2.06
AC-FT		494.	1960.	5580.	7962.

STATION 1, PLAN 1, RTIO 7

105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
106.	106.	107.	109.	111.	115.	120.	126.	135.	147.
165.	191.	225.	267.	317.	375.	439.	502.	563.	618.
668.	713.	760.	829.	890.	944.	992.	1034.	1071.	1103.
1131.	1155.	1177.	1195.	1211.	1224.	1236.	1246.	1254.	1261.
1266.	1271.	1274.	1277.	1279.	1280.	1281.	1281.	1280.	1279.
1278.	1277.	1275.	1273.	1270.	1267.	1265.	1262.	1258.	1255.
1251.	1247.	1243.	1239.	1235.	1231.	1227.	1223.	1218.	1214.
1210.	1206.	1203.	1199.	1195.	1191.	1187.	1183.	1179.	1175.
1171.	1167.	1164.	1160.	1156.	1152.	1148.	1145.	1141.	1137.
1133.	1130.	1126.	1122.	1119.	1115.	1111.	1108.	1104.	1101.
1097.	1093.	1090.	1086.	1083.	1079.	1076.	1072.	1069.	1065.
1062.	1058.	1055.	1052.	1048.	1045.	1041.	1038.	1035.	1031.

STOR

5154.	5154.	5154.	5154.	5154.	5154.	5154.	5154.	5154.	5154.
5154.	5154.	5154.	5154.	5154.	5154.	5154.	5154.	5154.	5154.
5154.	5154.	5154.	5154.	5154.	5154.	5155.	5156.	5159.	5167.
5181.	5208.	5257.	5337.	5460.	5633.	5869.	6188.	6624.	7239.
8124.	9371.	11034.	13119.	15570.	18288.	21114.	23928.	26600.	29055.
31274.	33265.	35044.	36628.	38032.	39273.	40366.	41325.	42167.	42903.
43546.	44107.	44593.	45014.	45377.	45689.	45954.	46179.	46367.	46524.
46652.	46755.	46835.	46895.	46938.	46965.	46979.	46979.	46969.	46950.
46921.	46885.	46841.	46791.	46736.	46676.	46611.	46541.	46465.	46383.
46294.	46202.	46109.	46016.	45924.	45831.	45738.	45646.	45554.	45462.
45370.	45279.	45188.	45098.	45007.	44918.	44828.	44739.	44650.	44561.
44473.	44385.	44297.	44210.	44123.	44036.	43950.	43864.	43778.	43692.
43607.	43522.	43438.	43354.	43270.	43186.	43103.	43020.	42937.	42855.
42772.	42691.	42609.	42528.	42447.	42366.	42286.	42206.	42126.	42046.
41967.	41888.	41809.	41731.	41653.	41575.	41498.	41420.	41343.	41267.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1281.	1280.	1269.	1204.	122774.
INCHES		0.16	0.65	1.86	2.63
AC-FT		635.	2519.	7169.	10152.

STATION 1, PLAN 1, RTIO 8

120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
120.	120.	120.	120.	120.	120.	120.	120.	120.	120.
121.	121.	122.	124.	127.	131.	137.	144.	154.	169.
189.	218.	257.	305.	364.	434.	507.	579.	648.	712.
790.	889.	977.	1056.	1126.	1187.	1242.	1289.	1331.	1367.
1399.	1426.	1450.	1471.	1489.	1504.	1526.	1550.	1569.	1584.
1597.	1607.	1614.	1620.	1623.	1625.	1625.	1624.	1621.	1618.
1614.	1609.	1603.	1596.	1589.	1582.	1574.	1565.	1556.	1547.
1536.	1525.	1515.	1506.	1501.	1496.	1491.	1486.	1481.	1477.
1472.	1467.	1462.	1457.	1452.	1448.	1443.	1438.	1433.	1428.
1424.	1419.	1414.	1410.	1405.	1400.	1396.	1391.	1387.	1382.
1378.	1373.	1369.	1364.	1360.	1355.	1351.	1346.	1342.	1337.

STOR

5891.	5891.	5896.	5896.	5896.	5896.	5896.	5896.	5896.	5896.
5896.	5896.	5896.	5896.	5896.	5896.	5896.	5896.	5896.	5896.
5896.	5896.	5896.	5896.	5896.	5896.	5891.	5892.	5896.	5905.
5921.	5952.	6008.	6099.	6239.	6438.	6707.	7072.	7571.	8273.
9284.	10709.	12611.	14993.	17795.	20891.	24129.	27345.	30398.	33204.
35739.	38009.	40035.	41836.	43432.	44841.	46081.	47169.	48122.	48955.
49681.	50312.	50860.	51332.	51738.	52085.	52380.	52627.	52831.	52999.
53133.	53238.	53317.	53373.	53408.	53426.	53428.	53415.	53391.	53355.
53310.	53256.	53194.	53125.	53050.	52971.	52886.	52795.	52699.	52595.
52484.	52370.	52256.	52143.	52029.	51916.	51803.	51689.	51577.	51464.
51352.	51241.	51130.	51019.	50909.	50799.	50689.	50580.	50472.	50363.
50255.	50148.	50040.	49934.	49827.	49721.	49616.	49510.	49405.	49301.
49197.	49093.	48990.	48887.	48784.	48682.	48580.	48478.	48377.	48276.
48176.	48076.	47976.	47877.	47778.	47679.	47581.	47483.	47385.	47288.
47191.	47095.	46999.	46903.	46807.	46712.	46617.	46523.	46429.	46335.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1625.	1623.	1594.	1483.	150355.
INCHES		0.21	0.82	2.29	3.22
AC-FT		805.	3162.	8830.	12432.

STATION 1, PLAN 1, RTIO 9

150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
150.	150.	150.	150.	150.	150.	150.	150.	150.	150.
151.	152.	153.	155.	159.	164.	171.	180.	193.	211.
236.	273.	321.	385.	464.	552.	643.	734.	888.	1041.
1179.	1302.	1412.	1511.	1696.	1859.	2001.	2125.	2233.	2326.
2406.	2475.	2533.	2583.	2625.	2660.	2688.	2711.	2729.	2743.
2753.	2759.	2762.	2763.	2762.	2758.	2753.	2746.	2737.	2728.
2717.	2705.	2693.	2679.	2665.	2651.	2635.	2620.	2603.	2586.
2568.	2550.	2531.	2513.	2495.	2477.	2459.	2441.	2423.	2406.
2388.	2371.	2354.	2337.	2320.	2303.	2287.	2270.	2254.	2237.
2221.	2205.	2189.	2174.	2158.	2143.	2127.	2112.	2097.	2082.
2067.	2052.	2037.	2023.	2008.	1994.	1980.	1966.	1952.	1938.
1924.	1910.	1897.	1883.	1870.	1856.	1843.	1830.	1817.	1804.
1792.	1779.	1766.	1754.	1741.	1729.	1717.	1705.	1693.	1681.

STOR

7363.	7363.	7363.	7363.	7363.	7363.	7363.	7363.	7363.	7363.
7363.	7363.	7363.	7363.	7363.	7363.	7363.	7363.	7363.	7363.
7363.	7363.	7363.	7363.	7363.	7363.	7363.	7365.	7371.	7381.
7402.	7440.	7510.	7624.	7799.	8047.	8384.	8840.	9463.	10341.
11605.	13386.	15763.	18741.	22243.	26113.	30159.	34178.	37998.	41489.
44643.	47465.	49981.	52217.	54193.	55927.	57442.	58763.	59909.	60901.
61756.	62489.	63115.	63645.	64091.	64461.	64764.	65009.	65201.	65347.
65452.	65521.	65558.	65566.	65550.	65512.	65454.	65379.	65289.	65186.
65072.	64946.	64812.	64669.	64520.	64364.	64202.	64034.	63859.	63675.
63483.	63287.	63092.	62897.	62704.	62512.	62320.	62130.	61942.	61755.
61569.	61385.	61202.	61020.	60840.	60662.	60484.	60309.	60134.	59961.
59789.	59618.	59449.	59281.	59115.	58949.	58785.	58623.	58461.	58301.
58142.	57984.	57827.	57672.	57518.	57365.	57213.	57062.	56913.	56764.
56617.	56471.	56326.	56183.	56040.	55898.	55758.	55618.	55480.	55343.
55207.	55071.	54937.	54804.	54672.	54541.	54411.	54282.	54154.	54027.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2763.	2760.	2710.	2424.	235092.
INCHES		0.36	1.39	3.74	5.04
AC-FT		1369.	5378.	14431.	19439.

PEAK FLOW SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS

PERATION	STATION	PLAN	RATIOS APPLIED TO FLOWS 0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	1.00
HYDROGRAPH AT	1	1	5006.	10011.	15017.	20022.	25028.	30034.	35039.	40045.	50056.
		2	0.	0.	0.	0.	0.	0.	0.	0.	0.
ROUTED TO	1	1	138.	277.	422.	574.	727.	997.	1281.	1625.	2763.
		2	0.	0.	0.	0.	0.	0.	0.	0.	0.

APPENDIX D

STABILITY ANALYSIS

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REFERENCES

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