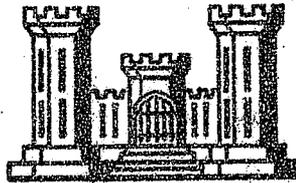


MERCED COUNTY STREAM GROUP

MAINTENANCE MANUAL

MARIPOSA DAM  
AND  
RESERVOIR



SACRAMENTO DISTRICT  
CORPS OF ENGINEERS  
U. S. ARMY  
SACRAMENTO, CALIFORNIA

FILE COPY

MAINTENANCE MANUAL  
MARIPOSA PROJECT  
MERCED COUNTY STREAMS, CALIFORNIA

Prepared in the Sacramento District  
Corps of Engineers, U. S. Army  
Sacramento, California, dated 1 April 1952

Approved by the Chief of Engineers \_\_\_\_\_ 19 \_\_\_\_\_

E. D. File \_\_\_\_\_

REVISIONS

Date	New pages or exhibits	Date approved by C. of E.

MAINTENANCE MANUAL  
MARIPOSA PROJECT  
MERCED COUNTY STREAMS, CALIFORNIA

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MAINTENANCE MANUAL  
MARIPOSA PROJECT  
MERCED COUNTY STREAMS, CALIFORNIA

1. Authorization. - The Mariposa Creek project comprising Mariposa Dam and Reservoir, was authorized as a unit of the plan of improvement for flood protection on streams in the Merced County Stream Group in San Joaquin Valley, California, by Flood Control Act approved 22 December 1944. The authorization was based upon a report entitled "Merced County Streams, California," printed as House Document No. 473, Seventy-eighth Congress, second session.

2. Purpose and Description of This Manual. - This manual will serve as a guide in the maintenance of the Mariposa project. The manual is divided into the following two parts:

Part A - Location and Description of Project

Part B - Maintenance - Mariposa Dam and Reservoir

PART A

LOCATION AND DESCRIPTION

1. Project Location. - The Mariposa Dam and Reservoir is located about 18 miles easterly from the city of Merced in central California. The project location is shown on exhibit No. B-1. The dam extends across Mariposa Creek near the foothill line about 7 miles northeast from the town of LeGrand. Mariposa Creek rises in the lower Sierra Nevada foothills and flows westerly, with a channel capacity of 1,200 c.f.s., across the valley floor breaking up in the delta area into sloughs and numerous inter-connecting channels which are drained by the San Joaquin River.

2. Project Description. - The project works covered by this manual include the following:

a. An earthfill dam about 1,330 feet long with a crest width of 20 feet and a maximum height of 88 feet.

b. Dike "A", an earthfill dike about 830 feet long with a crest width of 20 feet and a maximum height of 23 feet and located near the right abutment of Dike "B".

c. Dike "B", an earthfill dike about 550 feet long with a crest width of 20 feet and a maximum height of 55 feet and located near the right abutment of the main dam.

d. An ungated unlined outlet works located in the creek channel near the left abutment of the dam consists of a 5'-5" diameter

reinforced concrete conduit having a capacity of 1,000 c.f.s. at gross pool elevation of 439.50.

e. A spillway located in a saddle near the left abutment of the dam consists essentially of a control weir with a crest length of 260 feet at elevation 439.50.

3. Protection Provided. - The project controls the flood water run-off from an area of about 107 square miles of foothill and mountain drainage. The entire capacity of 15,000 acre-feet will be available for flood at all times. The project design flood has a peak flow of 11,000 c.f.s. and a volume of 33,300 acre-feet.

4. Construction History. - The construction was accomplished under two contracts, copies of which are on file in the office of the District Engineer, Sacramento District, Corps of Engineers, Sacramento, California. Pertinent contract data are as follows:

a. Outlet Works, Main Dam, Dikes and Spillway

Contractor - A. Teichert & Son  
Contract No. W-04-167-eng-1386  
Work started - 3 March 1948  
Work completed - 12 November 1948

b. Outflow Gaging Station and Diversion Channel

Contractor - H. Sykes  
Contract No. DA-04-167-eng-697  
Work started - 25 January 1952  
Work completed - 15 April 1952 (Estimated)

## PART B

### MAINTENANCE - MARIPOSA DAM AND RESERVOIR

1. Purpose and Intent of This Manual. - The purpose of this manual is to furnish personnel of the District with information on the project works together with instructions as to the details of maintenance requirements of the Mariposa Dam and Appurtenances. The general intent of the procedures contained herein is to insure that the structures and facilities shall be continuously maintained in such a manner and operated at such times and for such periods as may be necessary to obtain maximum benefits.

2. Definitions. - As used hereinafter the terms "Operation Division" and "Engineering Division" shall refer to organizations within the Sacramento District Office, Corps of Engineers, U. S. Army. "Flood Season" is considered to be the period between 1 November and 30 April.

3. Duties of the Operations Division. - All inspection, maintenance and operation of the dam and appurtenances, except the stage recorders, will be under the jurisdiction of the Operations Division. The general duties of this division shall include the following:

a. Training of Key Personnel. - Key personnel will be trained in order that regular inspection and maintenance work may be performed efficiently and to insure that unexpected problems related to flood control may be handled in an expeditious and orderly manner. They shall become familiar with the provisions of this report, the construction specifications, and "As Constructed" drawings.

b. Inspection and Maintenance. - Periodic inspections shall be made by the Chief of the Operations Division or his authorized representative in order to determine maintenance measures required to insure serviceability of the works in time of flood. Such inspections shall be made immediately prior to the beginning of the flood season, immediately following each major high water period, and at intervals not to exceed 90 days. Immediate steps shall be taken to correct dangerous conditions disclosed by such inspections and regular maintenance repair measures shall be accomplished during the appropriate season as scheduled by the Chief of the Division. All repairs shall be made in accordance with standard engineering practice, to line and grade and in accordance with details shown on construction drawings for the project works, copies of which are included in exhibit B-5. The check lists shown on exhibit B-2 shall be used in each inspection to insure that no features of the protective system are overlooked. Items requiring maintenance shall be noted thereon.

c. Files and Records. - The Chief of the Division shall establish a file of all reports and records concerning the maintenance and operation of the project works.

d. Encroachment or Trespass on Right-of-Way. - There shall be no encroachment or trespass which will adversely affect the efficient operation or maintenance of the project. The Chief of the Division shall, therefore, cause notices to be posted at conspicuous places along the project right-of-way directing public attention to this requirement and he shall arrange for the prosecution of offenders and report actions taken to the District Engineer.

e. Permit for Right-of Entry or Use of Portions of Right-of-Way. - All requests for permits for temporary right of entry or use of portions of the Government owned rights-of-way shall be carefully reviewed to determine that such use will not adversely affect the safety and functioning of the project structures, or maintenance and flood fighting operations. A sample permit form is attached as Exhibit B-3.

f. Reports. - The Chief of the Division shall submit within a 10-day period following 1 July of each year, a report to the District Engineer covering inspection, maintenance, and operation of the Mariposa Dam and Appurtenances, and it shall contain a statement of:

- (1) The physical condition of the protective works as summarized from the logs of inspection.
- (2) Flood behavior of the protective works.
- (3) Flood fighting activities during the flood season.
- (4) Prosecutions for encroachment or trespass.
- (5) Permits issued for right of entry or use of right-of-way.
- (6) Maintenance measures taken; nature, date of construction and date of removal of temporary repairs, date of permanent repairs.
- (7) Fiscal statement of cost of maintenance and operation for the period.

4. Duties of the Engineering Division. - The operation and maintenance of the stage recorders will be under the jurisdiction of the Engineering Division. In addition to maintaining and operating the stage recorder, the Chief of the Division shall maintain a continuous record of stage in the Mariposa Reservoir, outflow from the reservoir, through the conduit and any flow over the spillway structure. Such records shall be made available to the Chief of the Operations Division for inclusion in the annual report and for the official files of the project. Exhibit B-8 contains copies of the rating curves for the outlet works and spillway together with the area-capacity curve for the reservoir.

5. Project Works. - The flood control works covered by this manual are known as the Mariposa Dam and Reservoir Project, and consist of a main dam, two dikes, an uncontrolled outlet, a spillway and miscellaneous facilities. The various items of the project are discussed in more detail in the following paragraphs.

6. Main Dam, Dike "A" and Dike "B".

a. General. - The main dam, dike "A" and dike "B" sections are similar. They consist of a compacted impervious core, a transition section and pervious fill both upstream and downstream with slopes of 2 horizontal to 1 vertical. The upstream slopes are faced with a three-foot thick blanket of 3-inch<sup>+</sup> cobbles. No protection against erosion is provided on the downstream slopes. Crown width is 20 feet. The crest elevation is 455.50. The main dam and dikes are located as shown on sheet 10 of exhibit B-5.

b. Description.

- (1) Main Dam. - The embankment section starts at station 25+20 and extends easterly to station 38+50. The downstream toe is protected by a blanket of 3-inch<sup>+</sup> cobbles extending from toe of slope up to elevation 380.00 on a 1 on 3 slope.
- (2) Dike "A". - The embankment section starts at station 1+40 and is adapted to the topography by means of two curves and tangents extending to station 9+70.
- (3) Dike "B". - The embankment section starts at station 12+90 and is adapted to the topography by means of a curve and tangents extending to station 18+40.

c. Inspection and Maintenance - Main Dam and Dikes.

- (1) Periodic inspections shall be made by the Chief of the Operations Division or his authorized representative to insure that:
  - (a) No unusual settlement, sloughing or material loss of grade or embankment cross section has taken place.
  - (b) No caving has occurred on either the landside or reservoir side of the embankments which might effect the stability of the sections.
  - (c) No seepage, saturated areas or sand boils are occurring.
  - (d) No revetment work or riprap has been displaced, washed out or removed.

- (e) There is no unauthorized grazing or vehicular traffic on the embankments.
  - (f) Encroachments are not being made on the embankment right-of-way which might endanger the structure or hinder its proper and efficient functioning during times of emergency.
  - (g) Crown of embankment is shaped so as to drain readily and roadway thereon is well shaped and maintained.
- (2) To insure the taking of such maintenance measures as will be required for proper functioning of the embankment section, the following items shall be specifically covered in each inspection:
- (a) Settlement, sloughing or material loss of grade or embankment cross section.
  - (b) Erosion of embankment slopes.
  - (c) Presence of seepage, saturated areas, or sand boils on downstream slope of embankment.
  - (d) Condition of toe protection and riprap.
- (3) Maintenance methods to be used for repair or reconstruction of embankment fill shall depend on the extent of the damaged section. If of small extent, the most suitable method will be to bring the embankment back to line and grade by a fill made in 6-inch layers of coarse granular material, such as sand and gravel. If of larger extent, the fill shall be made in the same manner as the original construction with homogeneous material from borrow pits approved for the project, and placed in uniform horizontal layers not more than 6 inches in depth and compacted to a density equal to that of the original embankment section.
- (4) Burrowing animals found in the embankments shall be exterminated. Extermination by trapping and poisoning are usually effective. Advice concerning the best methods in each locality can be obtained from the county agricultural agent. The dens and runways shall be opened up, then thoroughly compacted as they are back-filled.
- (5) Embankments shall be kept properly cleared of growths of long grass, weeds, and brush.

(6) Access roads shall be properly maintained so that ordinary maintenance work and flood fighting operations will not be obstructed.

(7) Gages.

(a) The automatic recording gages shall be inspected by the Engineering Division at least once in each 30 day period during the flood season. Particular attention shall be given to the following items:

1. Check that clock is running and rewind if necessary.
2. Check that pen is marking and refill ink reservoir if necessary.
3. Check that paper is feeding smoothly through instrument and replace feed roll as necessary.
4. Check operation of float by turning float wheel back and forth.
5. Read outside and inside gages and note readings and day and hour of inspection on chart.
6. Check functioning of inlets to stilling well and clean if necessary.
7. Check accumulation of silt in stilling well and clean if necessary.
8. Each automatic recording gage shall be cleaned, lubricated according to manufacturer's instructions and overhauled, if necessary, at least once a year, preferably during the month of October, immediately prior to the flood season. Each staff gage shall be cleaned of adhering mud or stain which would interfere with their legibility as often as required.

(b) At the time of each regular inspection by the Operations Division, the following is to be noted:

1. Damage or settlement of stilling wells.
2. Condition of riprap around stilling wells, if any.
3. Condition of wood access bridge to reservoir recorder house.

4. Condition of recorder houses.
5. Condition of staff gages - any slippage or displacement.
6. Condition of "A" frames, gaging car and cableway.
7. Presence of scour around "A" frame footings and cableway anchor blocks.
8. Accumulation of debris or growth of brush in diversion channel, or loss in section of dike as shown on drawing No. ME-1-25-71 sheet 71/1, exhibit B-5.

(c) The access bridge, cableway and recorder houses shall be kept in good repair and repainted as necessary. Any adverse conditions disclosed by the inspections shall be corrected immediately and all the gaging facilities kept in the best possible condition.

(8) Gates. - If upon inspection, it is found that the tubular steel gates, posts, or braces have been damaged or broken, they shall immediately be repaired and maintained in good operating condition. If any fastening chains and locks are missing, they shall immediately be replaced. Keys to locks shall be kept readily available at the area office to permit ready passage through the gates for all authorized travel.

d. Flood Emergency Inspection.

- (1) During flood periods, the dam and dikes shall be patrolled continually to locate possible sand boils or unusual wetness of the landward slope and to take appropriate corrective measures for the following conditions:
  - (a) Indications of slides or sloughs developing.
  - (b) Wave wash or scouring action.
  - (c) Other conditions existing which might endanger the structure.
  - (d) Inadequate labor and materials to meet all contingencies. Immediate steps shall be taken to control any condition which endangers the embankment, and to repair the damaged section.

- (2) It shall be the duty of the Chief of Operations or his authorized representatives to maintain a continual patrol of the project works during all periods of flood flow during which the water stage in the reservoir reaches elevation 439.50 or in excess thereof, and to maintain a store of supplies and equipment available for emergency flood-fighting operations and emergency repairs. In this connection, it is suggested that a copy of the latest revised "Flood Emergency Manual" be consulted for suggested methods of combating flood conditions. Operating personnel assigned to the project shall immediately dispatch a message, by the most rapid means of communication available, to the Chief of the Operations Division whenever the water surface reaches the flood stage indicated above, and also keep him advised at frequent intervals of project conditions until the reservoir stage recedes to a safe level.

## 7. Outlet Structures.

a. General. Outlet structures in the project consist of an uncontrolled outlet structure and a reservoir spillway.

### b. Description.

- (1) Uncontrolled Outlet Structure. This structure is located at station 31+46 of the project base line. Details of the outlet structure are shown on sheets 12 and 13 of exhibit B-5. Principal feature of the outlet works consists of an unlined approach channel; reinforced concrete intake, transition section, conduit through the dam, jump basin, and an unlined exit channel. The unlined approach channel is trapezoidal with an 8-foot bottom width, 1 on  $1\frac{1}{2}$  side slopes and is 10-foot deep. The invert grade is 370.00. The channel, 110 feet in length, extends from the channel of Mariposa Creek downstream to the intake section. The reinforced concrete intake structure is 18-foot long, rectangular in section, varying in width from 8 feet upstream to 5'-5" at the entrance of the transition section. The top of vertical side walls slope from elevation 374.00 to 382.00; the invert elevation is 370.00. The transition section is 15'-5" long with a bellmouthed entrance and varies in section from 5'-5" square to a circular barrel 5'-5" in diameter. The arch conduit through the embankment section is 330 feet long consisting of 11 sections with contraction joints and water stops provided around the conduit within the impervious core section of the embankment. Entrance invert elevation is 370.00; exit invert

elevation is 368.00. The conduit discharges into a 30-foot long jump basin which varies uniformly in width from 5'-5" to 20'-0" and in elevation from 368.00 to 365.00. An end sill 2 feet thick and 3 feet in height extends across the downstream width. Tops of training walls and 8-foot long wing walls perpendicular to the jump basin axis are at elevation 376.00. The unlined exit channel is trapezoidal with a variable bottom width, 1 on  $1\frac{1}{2}$  side slopes and 360-feet in length.

- (2) Reservoir Spillway. The spillway is located through a natural saddle on the left abutment approximately 450 feet easterly of the east end of the main dam at station 43+36 on the project base line. The plan and sections are shown on sheet 14 of exhibit B-5. The spillway consists of a concrete gravity control section 260 feet in length with a trapezoidal approach and exit channels excavated to 1 on  $1\frac{1}{2}$  side slopes. The crest elevation is 439.50.

c. Inspection and Maintenance.

- (1) Adequate measures shall be taken by the Chief of Operations or his representative to insure that the inlet channel, outlet channel, outlet conduit and spillway are sufficiently clear of obstructions and debris to permit proper functioning of the project works and that:
  - (a) Care is being exercised to prevent the accumulation of trash near the structures.
  - (b) Erosion is not occurring adjacent to the structures which might endanger its water tightness or stability.
- (2) At each inspection required by paragraph 3b of this manual, the following items, if applicable, shall be particularly noted:
  - (a) Damage or settlement of concrete conduit.
  - (b) Condition of embankment adjacent to outlet structures.
  - (c) Condition of approach and egress channels.
- (3) All concrete shall be repaired as soon as any reinforcing steel is exposed. The repair shall be made by thoroughly cleaning the surface, by chipping or sand blasting, and building up the concrete to its original

section. For this purpose, the use of pneumatically placed Portland cement mortar is considered satisfactory. All evidence of settlement, uplift or failure of concrete structures should be referred to the Engineering Division for analysis and recommendation of remedial action.

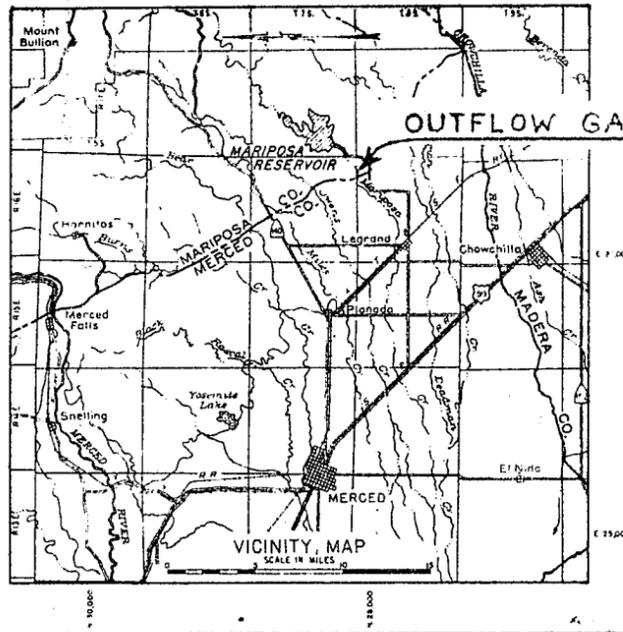
8. Reservoir.

a. General. - The reservoir contains approximately 510 acres of pasture and grazing land.

b. Description. - The reservoir contains the area below gross pool elevation 439.50 impounding the flow of Mariposa Creek. The land is very sparsely wooded and is largely used for grazing live stock.

c. Inspection and Maintenance. - Periodic inspections shall be made by the Chief of the Operations Division, or his authorized representative, of the reservoir area to insure that:

- (1) No new wooden buildings or other structures of floatable construction are erected.
- (2) No felled trees, logs or other floatable debris are left within the reservoir limits.
- (3) No wooden fences or corrals are existing.
- (4) All wire fences are stabilized by using a minimum of four steel posts to one wooden one.



OUTFLOW GAGING STATION

GROSS POOL  
ELEV. 439.5

GROSS POOL  
ELEV. 439.5

ISPILLWAY

MARIPOSA MAIN DAM

DIKE A  
DIKE B

DATUM IS MEAN SEA LEVEL, 1929 ADJUSTMENT

Merced County Streams, Calif.  
**MARIPOSA PROJECT**  
 Mariposa Creek  
**GENERAL MAP**

500 0 500 1000

Corps of Engr's. Sacramento, Calif.

Prepared by: G.C.F. Date: 1 Jan 1952

EXHIBIT B-1

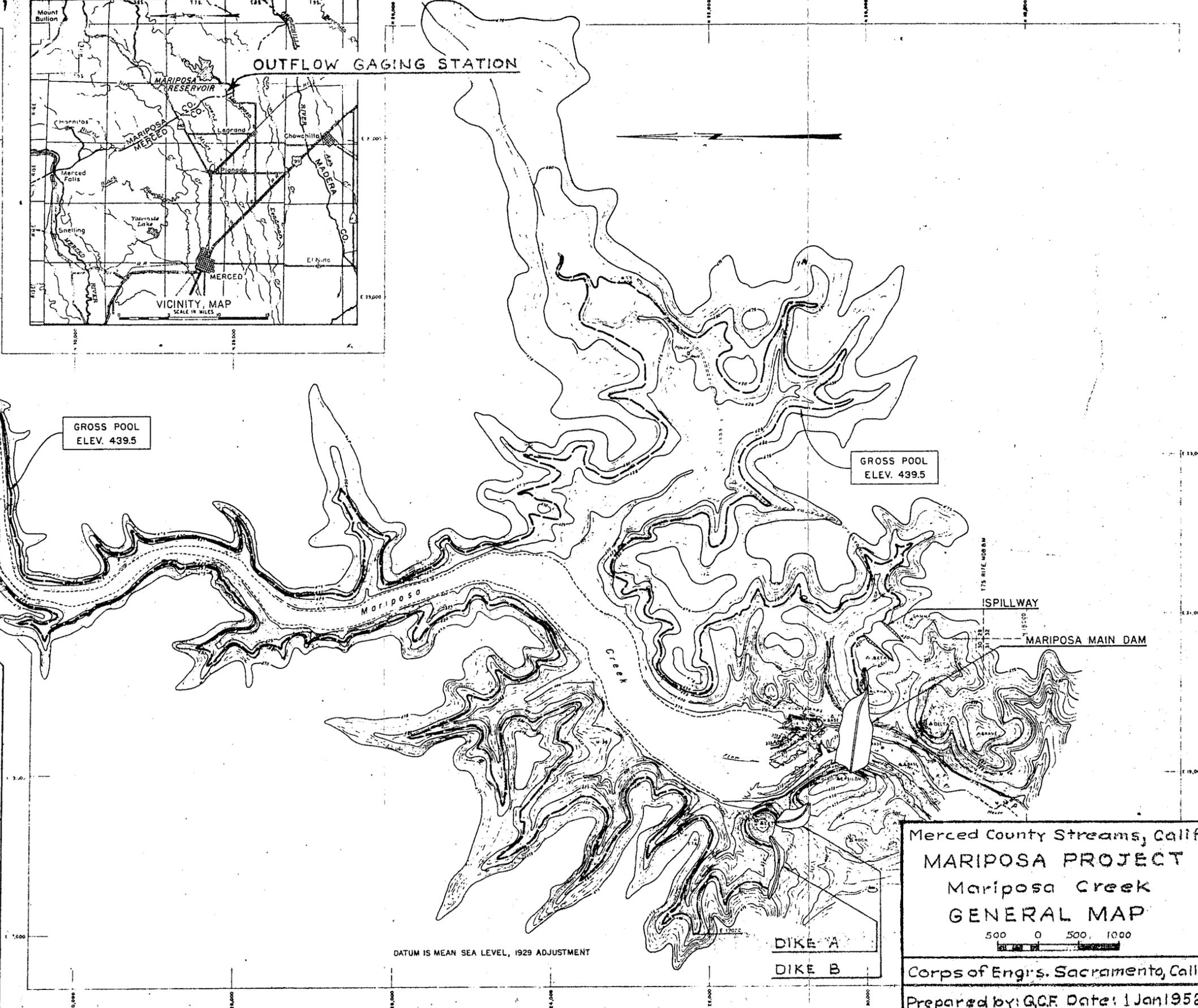
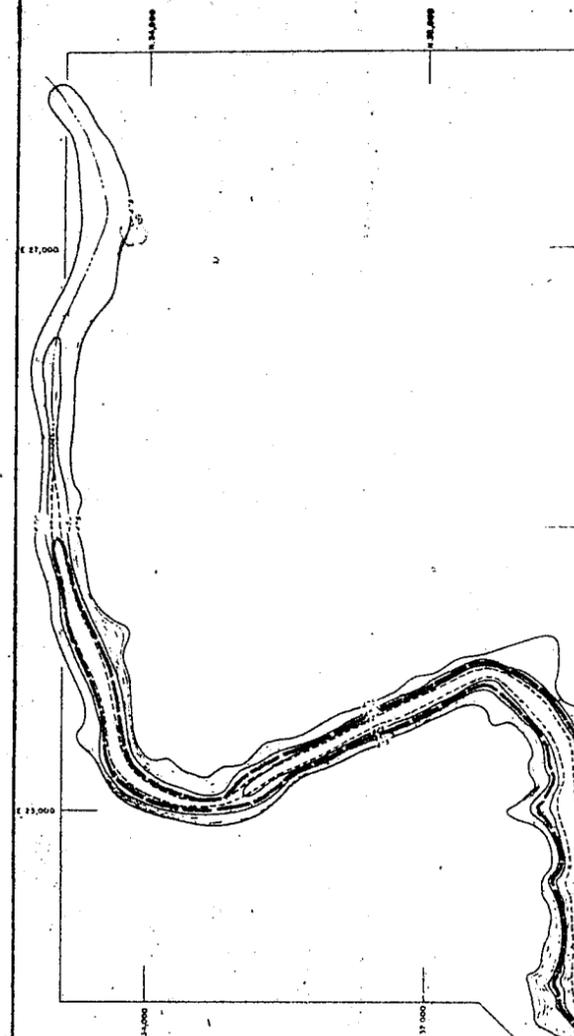


EXHIBIT B-2  
CHECK LIST NO. 1  
Embankments, Main Dam, Dike "A" and Dike "B"

Inspector's Report Sheet No. \_\_\_\_\_ Date \_\_\_\_\_

<u>Item</u>	<u>Remarks</u>
(a) Location by station	
(b) Settlement, sloughing or loss of grade.	
(c) Evidence of seepage, saturated areas or sand boils.	
(d) Condition of toe protection and riprap.	
(e) Erosion of embankment slopes.	
(f) Condition of weed or brush growth on slopes.	
(g) Condition of roadway.	
(h) Corrective action taken since last inspection.	
(i) Comments.	

Instructions for completing sheet 1, exhibit B-2.

- (a) Show station of observation obtained by pacing from nearest referenced point. (Except as otherwise noted below.)
- (b) If sufficient settlement of earth work has taken place to be noticeable by visual observation, indicate amount of settlement in tenths of a foot. If sloughing has caused a change in slope of the embankment sections, determine new slope.
- (c) Indicate any evidence of seepage through the embankment.
- (d) Indicate any evidence of gullying parallel with toes and dislocation of rock.
- (e) Note areas where erosion or gullying of the section has occurred.
- (f) Note condition of weed and brush growth, inappropriate burning of same, and evidence of unauthorized grazing.

Instructions for completing sheet 1, exhibit B-2 (Cont'd)

(g) Note any material change in grade and section of roadway. Indicate any inadequacy in surface drainage.

EXHIBIT B-2  
CHECK LIST NO. 2  
Outlet Works and Recorder Stations

Inspector's Report Sheet No. \_\_\_\_\_ Date \_\_\_\_\_

<u>Item</u>	<u>Remarks</u>
(a) Name of structure and location.	
(b) Debris or obstructions to flow.	
(c) Damage or settlement of conduit or structure.	
(d) Condition of concrete.	
(e) Condition of unlined approach and return channels.	
(f) Condition of stone protection.	
(g) Condition of gaging facilities.	
(h) Corrective action taken since last inspection.	
(i) Comments.	

Instructions for completing sheet 3 of exhibit B-2.

- (a) Indicate type of structure and enter centerline station. This sheet is intended for use during inspections of the uncontrolled outlet works, the spillway and gage recording stations.
- (b) Inspect the conduit and the intake and outlet channel sections for accumulations of sediment, rubbish and vegetal matter, and note any adverse condition found.
- (c) Record any settlement of the conduit or of the spillway sill and wasteway structures.
- (d) Indicate condition of concrete and record evidence of cracks, "pop-outs", spalls and abrasive wear. Note condition of expansion joints.
- (e) Note condition of approach and return channels and indicate any changes in grade or alignment caused by either sediment or scouring action and any presence of debris or drift that might damage or clog the outlet works.

Instructions for completing sheet 3 of exhibit B-2 (Cont'd)

- (f) Note condition of stone blanket protection and indicate such changes as disintegration of rock, erosion or movement and the presence of vegetal growth through the blanket.
- (g) Note any damage, settlement, or scour around concrete footing to gaging stations, cableway, service bridge, and condition of bridge, handrail, "A" frames, cable car and indicate if repainting is required. Note the condition of recording gage facilities in respect to: Serviceability of inlet pipes and strainers for the stilling well, bolted connections, functioning of automatic recorder and float system, accumulation of silt in the stilling wells, accumulation of silt in the stilling basins at reservoir end of inlet pipes, covers on stilling basin, intercepting channel and dike.

EXHIBIT B-2  
CHECK LIST NO. 3  
RESERVOIR

Inspector's Report Sheet No. \_\_\_\_\_ Date \_\_\_\_\_

<u>Item</u>	<u>Remarks</u>
(a) Location.	
(b) Presence and location of wooden buildings or other structures of floatable nature.	
(c) Presence of felled trees, logs or other floatable debris.	
(d) Presence and location of wooden fences.	
(e) Condition of wire fences.	

**EXHIBIT B-3**

**PERMIT**

\_\_\_\_\_  
(Name of Levee Commission or City)

\_\_\_\_\_  
(Location)

Permission is hereby granted to:

\_\_\_\_\_  
(Name of Firm or Individual)

\_\_\_\_\_  
(Address)

TO: (Describe in these spaces the proposal, including kind and type of construction, purpose intended, location by stationing. Indicate passageway provided by means of gates, etc. Use separate sheets if necessary, identifying each by reference herein.)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Provided That:

Upon termination or expiration of this permit (whether by voluntary relinquishment by the grantee, by revocation by the grantor or otherwise) the grantee shall remove all structures, improvements, or appurtenances which may have been erected or constructed under this permit, and shall repair or replace any portion of the flood protection structure or right-of-way which may have been damaged by his operations (including grading and seeding, or sodding, if necessary), to the satisfaction of the grantor.

The structure or operation for which this permit is issued shall be maintained by the grantee in such manner as shall not injure or damage the flood protection structure, or interfere with its operation and maintenance in accordance with regulations of the Secretary of the Army.

The structure or operation covered by this permit may be damaged, removed or destroyed by the grantor in time of flood emergency if such action is determined by the grantor to be necessary in order to preserve life or property or prevent damage or impairment to the use or safety of the flood protection structure, and the grantor shall not be liable to the grantee for such damage or destruction.

Unless otherwise specifically provided herein, this permit may be cancelled at any time by the grantor upon 10 days written notice mailed to the address shown above. During such 10 day period, (or such other period as may be provided herein), the grantee will be permitted to remove any property or improvements installed under this permit, and to repair or replace any damage to the flood protection right-of-way or structures resulting from his use or operations. At the end of such period, the grantor shall have the right to possess and dispose of any such property or improvements remaining upon its right-of-way, and may proceed to repair or replace any such damage, and the grantee herein shall be liable to the grantor for the full cost of such repairs or replacements.

\_\_\_\_\_  
Signature (Grantee)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Date)

District Engineer

EXHIBIT B-4  
INDEX OF DRAWINGS  
MARIPOSA PROJECT - DRAWING NO. ME-1-112-53  
AS CONSTRUCTED DRAWINGS

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MARIPOSA RESERVOIR OUTFLOW GAGING STATION - DRAWING NO. ME-1-25-71  
AS CONSTRUCTED DRAWINGS

<u>Title</u>	<u>Sheet No.</u>
Cable Way and Channel Improvement	1 of 2
Stilling Well and Gage House	2 of 2

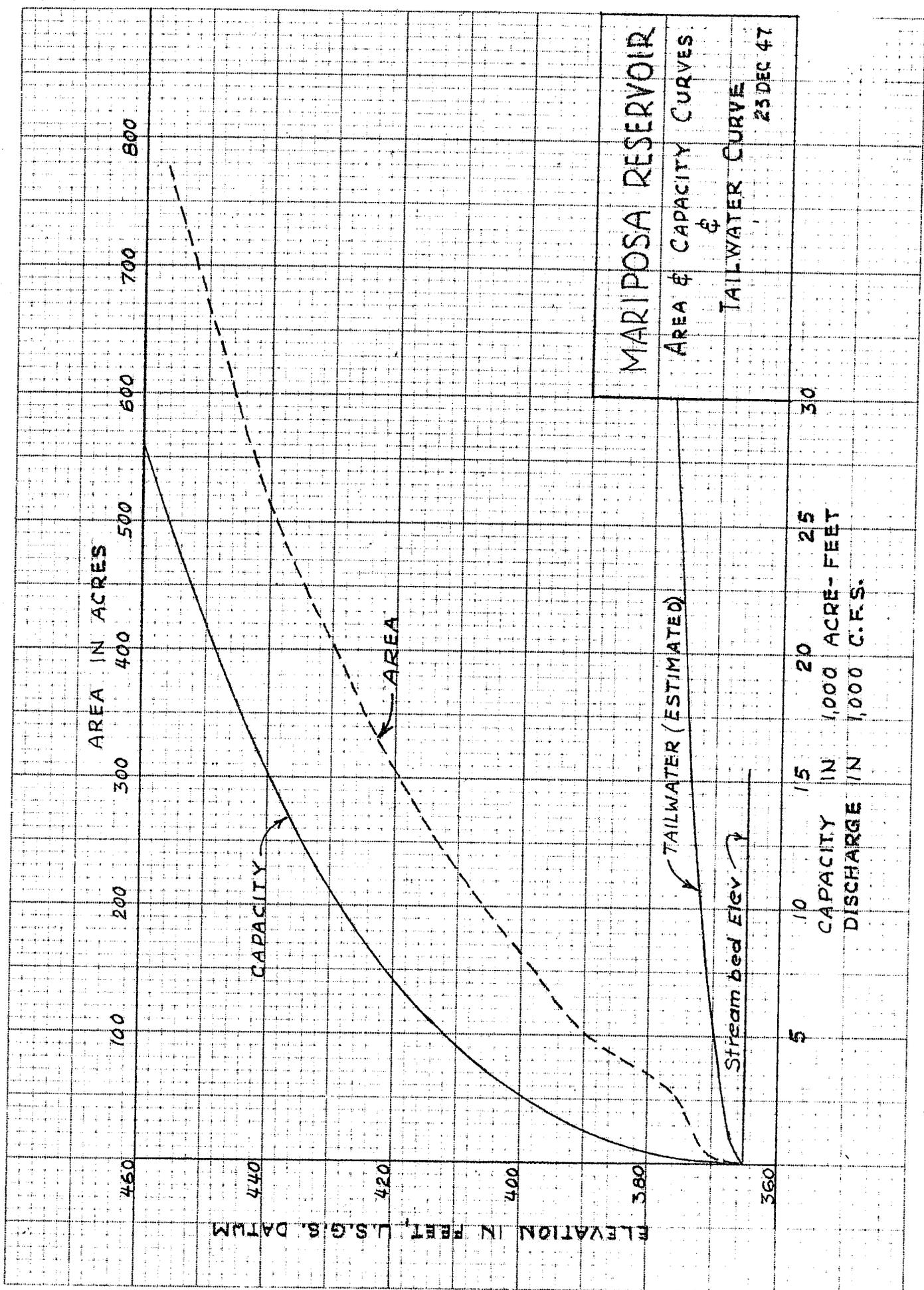


EXHIBIT B-6-1

POOL ELEVATION, N. FEET (U.S. G.S. DATUM)

440  
430  
420  
410  
400  
390  
380  
370  
360

Gross Pool Elev. 439.5

Invert Elev. 370

1-32" Diam. Round Conduit (ungrouted)

DISCHARGE IN C.F.S.

0 200 400

600 800 1000

# MARIPOSA PROJECT OUTLET RATING CURVE

CEE

14 NOV. 1947

EXHIBIT B-6-2



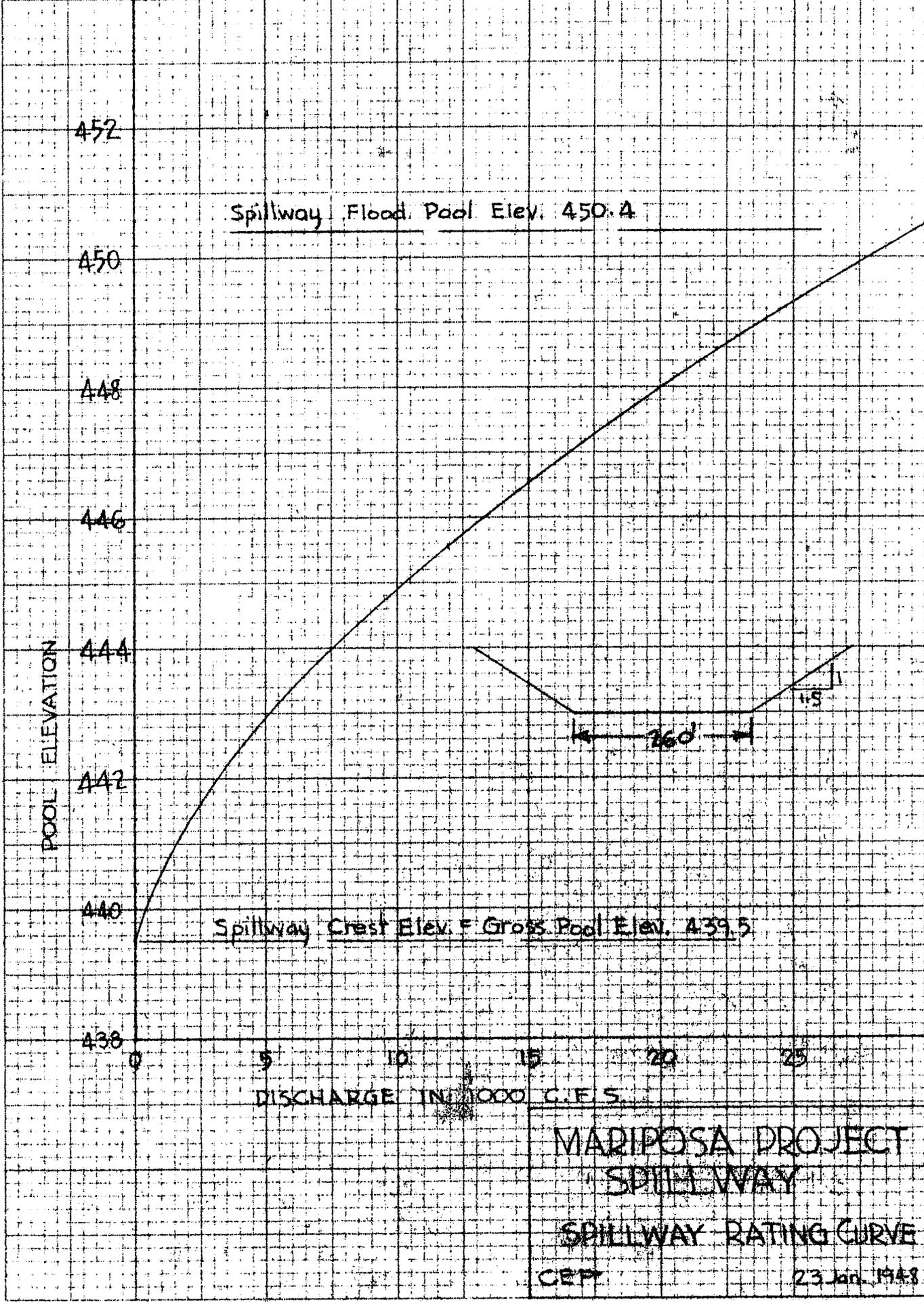


EXHIBIT 8-6-3