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Book F

SUPPLEMENT TO STANDARD  
OPERATION AND MAINTENANCE  
MANUAL

SACRAMENTO RIVER  
FLOOD CONTROL PROJECT

UNIT NO. 119  
PUTAH CREEK CHANNEL AND LEVEES  
AND  
WEST LEVEE OF YOLO BY-PASS  
FROM  
YOLO CAUSEWAY DOWNSTREAM 3 MILES



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

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CORPS OF ENGINEERS  
U. S. ARMY

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Prepared in the Sacramento District  
Corps of Engineers, U. S. Army  
Sacramento, California, December 1952

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YOLO CAUSEWAY DOWNSTREAM 3 MILES

LOCATION	ADDITION OR REVISION	DATE
Sections I and II	Revised Highway no. 40 designation to Interstate 80	Mar 1975
2-01 c.	*Added note on semi-controlled vegetation	Mar 1975
Exhibit F	Added copy of letter indorsing revision dated 27 Feb 1975	Mar 1975
Exhibit I	Added typical sections of semi-controlled growth.	Mar 1975
Exhibit J	Added aerial mosaics (detached)	Mar 1975
Exhibit F	Add copy of letter of transfer dated 19 Nov 1946	21 Dec 2010
Exhibit F	Add copy of letter of transfer dated 31 Oct 1949	21 Dec 2010
Exhibit F	Add copy of letter of transfer dated 4 Dec 1951	21 Dec 2010
Exhibit F	Add copy of letter of transfer dated 8 Dec 1951	21 Dec 2010
Exhibit F	Add copy of letter of acceptance dated 18 Dec 1951	21 Dec 2010
Exhibit F	Add copy of letter of transfer dated 29 Nov 2016	29 Dec 2016

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UNIT NO. 119

TABLE OF CONTENTS

<u>Paragraph</u>	<u>Subject</u>	<u>Page</u>
<u>SECTION I - INTRODUCTION</u>		
1-01.	Location . . . . .	1
1-02.	Protection Provided . . . . .	1
1-03.	Project Works . . . . .	2
1-04.	Construction Data . . . . .	2
1-05.	Contractor . . . . .	2
1-06.	Flood Flows . . . . .	3
1-07.	Assurances Provided by Local Interests . . .	3
1-08.	Superintendent . . . . .	3

SECTION II - FEATURES OF THE PROJECT  
SUBJECT TO FLOOD CONTROL REGULATIONS

2-01.	Channels . . . . .	4
2-02.	Levees . . . . .	8
2-03.	Drainage and Irrigation Structures . . . . .	12
2-04.	Miscellaneous Facilities . . . . .	16

SECTION III - SUGGESTED METHODS OF  
COMBATING FLOOD CONDITIONS

3-01.	Repair of Damage . . . . .	17
3-02.	Applicable Methods of Combating Floods . . .	17

EXHIBITS

A	Flood Control Regulations - - - - -	Unattached (Contained in Standard Manual)
A-1	Location Map - - - - -	1 sheet
B	"As Constructed" Drawings - - - - -	Detached
C	Plates of Suggested Flood Fighting Methods - -	Unattached (Contained in Standard Manual)
D	Check List No. 1 - Levee Inspection Report - -	Unattached (Contained in Standard Manual)

EXHIBITS (Cont'd)

- E Check Lists - Levees, Channels and Structures - - - - - Sheets 1 thru 9
- F Letter of Acceptance by State Reclamation Board - - - - - 1 Sheet
- G Semi-Annual Report Form - - - - - Sheets 1 and 2
- H Putah Creek Rating Curve - - - - - 1 Sheet
- \*I Photos (1973) and Sections Indicating Semi-Controlled  
Growth - - - - - Sheets 1 thru 7
- \*J Aerial Mosaics (Detached) - - - - - Sheets 1 thru 8

" SEE HANGING MAP FILE "  
FOR AERIALS  
23-4-75 jk

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OPERATION AND MAINTENANCE  
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SACRAMENTO RIVER FLOOD CONTROL PROJECT

UNIT NO. 119

PUTAH CREEK CHANNEL AND LEVEES

AND

WEST LEVEE YOLO BYPASS

FROM

YOLO CAUSEWAY DOWNSTREAM 3 MILES

DECEMBER 1952

SECTION I

INTRODUCTION

1-01. Location. The improvement covered by this manual is that part of the Sacramento River Flood Control Project which includes the channel and levees of Putah Creek from the highway bridge at Winters, California, downstream to its mouth in the Yolo Bypass and the west levee of the Yolo Bypass from the Yolo Causeway southerly to Putah Creek. Putah Creek is one of the tributaries of the Yolo Bypass. The portion of the stream covered by this manual forms the boundary line between Yolo and Solano Counties and is in the general vicinity of the cities of Winters and Davis. The location of the completed unit of the Sacramento River Flood Control Project covered by this manual is shown on exhibit A-1 herewith.

4277  
1-02. Protection Provided. The project works are designed to protect adjacent agricultural lands from a flood flow of 40,000 cubic-feet per second in Putah Creek with the Yolo Bypass at flood stage. The west levee of the Yolo Bypass is designed to protect adjacent agricultural land from a flood flow of 480,000 cubic-feet per second in the Yolo Bypass within this unit. In Putah Creek the grade of the adopted flood plane varies from elevation 62.5 at a point 0.81 mile upstream from the bridge at Interstate 80 to elevation 27.10 at the Yolo Bypass. The levee grade provides a minimum freeboard of 3 feet above the flood plane profile from a point 0.81 mile upstream from Interstate 80 (beginning of embankment) downstream to the Liberty Island Road. From the Liberty Island Road to the Yolo Bypass the freeboard increases uniformly from 3 to 6 feet. In the Yolo Bypass within this unit, the adopted flood plane profile varies

\*(Revised March 1975)

from elevation 28.80 at the Yolo Causeway to elevation 27.10 at the mouth of Putah Creek. The levee grade provides for a freeboard of 6 feet above the flood plane profile.

1.03. Project Works. The project works covered by this manual was completed in three sections and includes the following:

a. Section I. Clearing of the Putah Creek Channel from the highway bridge at Winters to a point one mile upstream from the bridge at Interstate 80. \*

b. Section II. Clearing and improvement by excavation of the Putah Creek channel from a point 1 mile upstream from Interstate 80 downstream to the Yolo Bypass and the construction of levees to adopted grade and section on both banks of Putah Creek. \*

c. Section III. Construction of the west levee of the Yolo Bypass from the Yolo Causeway southerly to the north levee of Putah Creek.

1-04. Construction Data. Unit No. 119 of the flood control works described in this manual forms an integral part of the Sacramento River Flood Control Project. The construction to bring this unit to project standards was completed in sections under the contracts described as follows:

a. Section I. Channel clearing work extending from the highway bridge at Winters to a point approximately 1 mile upstream from the bridge at Interstate 80, started on 17 April 1950, and completed on 12 October 1950. \*

b. Section II. Channel improvement by excavation and levee construction along both banks of Putah Creek extending from a point approximately 1 mile upstream from the bridge at Interstate 80 to the Yolo Bypass, started on 2 September 1948, and completed on 10 November 1949.

c. Section III. Levee construction along the westerly edge of the Yolo Bypass, started on 16 July 1946, and completed 28 October 1946.

Responsibility for operating and maintaining the completed works herein described was officially accepted by the Reclamation Board of the State of California on 20 April 1951, as shown on the attached letter of acceptance, exhibit F. The scour on the William Hamel property mentioned in the letter of acceptance was subsequently remedied by the Sacramento District to the satisfaction of the State Reclamation Board.

1-05. Contractor. The prime work was performed under the following contracts, record copies of which are on file with the Corps of Engineers, U.S. Army, Sacramento District, Sacramento, California.

Section I. Channel clearing extending from the highway bridge at Winters to a point approximately 1 mile upstream from the bridge at Interstate 80, Contract No. DA04-167-Eng-1453, H. Earl Parker, Inc., Contractors. Drawing 50-6-2581. \*

Section II. Channel improvement and levee construction extending along both banks of Putah Creek from a point approximately 1 mile upstream from the bridge at Interstate 80 to the Yolo Bypass, Contract No. W-04-167-Eng-1453, H. Earl Parker, Inc., Contractors. Drawing 50-4-2396. \*

Section III. Levee construction along the westerly edge of the Yolo Bypass extending from the Yolo Causeway southerly 3 miles to the north levee of Putah Creek, Contract No. W-94-167-Eng-1191, A. Teichert and Son, Inc., Contractors. Drawing 50-4-2280.

1-06. Flood Flows. For purposes of this manual, the terms "flood" or "high water period" shall refer to flows when the water surface in Putah Creek reaches or exceeds the reading of 25.0 on the Putah Creek recording gage 6 miles west of Winters; it also applies to floods in the Yolo Bypass rising above the reading of 32.5 on the California Department of Water Resources and U.S. Geological Survey jointly operated gaging station just upstream from the Sacramento Northern Railroad bridge. A flowstage relationship at the Putah Creek recording station is shown on the rating curve in exhibit H.

1-07. Assurances Provided by Local Interests. Assurance of cooperation by local interests is provided by state legislation, as contained in Chapter 3, Part 2, Division 5 of the State Water Code. (See paragraph 2-02a of the Standard Manual.)

1-08. Superintendent. The name and address of the Superintendent appointed by local interests to be responsible for the continuous inspection, operation, and maintenance of the project works shall be furnished the District Engineer, and in case of any change of Superintendent, the District Engineer shall be so notified.

## SECTION II

### FEATURES OF THE PROJECT SUBJECT TO FLOOD CONTROL REGULATIONS

#### 2-01. Channels.

##### a. Description. The principle structures consist of:

(1) Cleared Channel. The channel of Putah Creek from the highway bridge at Winters to a point approximately one mile upstream from the bridge at Interstate 80 was cleared of trees and brush and in some places the channel invert was rough graded to eliminate islands, humps or bars. In the reach between the highway bridge at Winters and the easterly limits of the town of Winters, a distance of approximately 0.5 miles, the clearing was limited to the removal of a few trees. The channel was left undisturbed because of the Winters Dam and the sewage filter bed, both of which are located in the channel within this reach. \*

(2) Improved Channel. The channels of Putah Creek from a point approximately one mile upstream from the bridge at Interstate 80 to the Yolo Bypass was cleared and improved by excavation as an incidental part of levee construction work described in paragraph 2-02a. The material excavated from the channel was used in the levee embankment.

##### b. Inspection.

(1) Pertinent Requirements of the Code of Federal Regulations. Flood Control Regulations, paragraph 208.10 (g) (1) are quoted in part as follows:

"(g) Channels and Floodways.....(1) Maintenance. Periodic inspections of improved channels and floodways shall be made by the Superintendent to be certain that:

- (i) The channel or floodway is clear of debris, weeds, and wild growth; [See note at end of subparagraph (6), paragraph 2-01 c.] \*
- (ii) The channel or floodway is not being restricted by the depositing or waste materials, building or unauthorized structures or other encroachments;
- (iii) The capacity of the channel or floodway is not being reduced by the formation of shoals;
- (iv) Banks are not being damaged by rain or wave wash, and that no sloughing of banks has occurred;

- (v) Riprap sections and deflection dikes and walls are in good condition;
- (vi) Approach and egress channels adjacent to the improved channel or floodway are sufficiently clear of obstructions and debris to permit proper functioning of the project works.

Such inspections shall be made prior to the beginning of the flood season and otherwise at intervals not to exceed 90 days. Immediate steps will be taken to remedy any adverse conditions disclosed by such inspections..."

(2) The purpose of the flood-flow channel inspection is to insure that conditions which affect the channel capacity will remain the same, as far as possible, as those considered in the design assumptions and that no new conditions develop that may affect the stability of the project structures. At each inspection required by paragraph 208.10 (b) (1) of the Flood Control regulations, particular attention will, therefore, be given the following:

- (a) Location, extent and size of vegetal growth.
- (b) Unauthorized operations within the flood-flow channel right-of-way, such as excavations, buildings, and other structures, levees, bank protection, or training dikes.
- (c) Rubbish and industrial waste disposal.
- (d) Changes in the channel bed such as aggradation or degradation, which would interfere with free-flow from side drainage structures or induce local meanders that would scour the banks.
- (e) Operations of any nature upstream from the project that would affect flow conditions within the limits of the flood control project.
- (f) Condition of project structure.
  - 1. Channel walls:
    - a. Deviation from alignment and grade.
    - b. Development of cracks and spalls.
    - c. Mechanical injuries.

2. Fencing:

- a. Injuries to posts, fencing or barbed wire.
- b. Damage to galvanizing.

3. Earth fills:

- a. Settlement.
- b. Erosion of backslopes.
- c. Excessive seepage or saturation area back of fills.
- d. Condition of bank protection - concrete or stone blanket.

4. Right-of-way:

- a. Presence of dumped refuse.
- b. Encroachment or trespass.

(3) No excavation within the limits of the Putah Creek Channel will be permitted unless an excavation permit has been approved by the State Reclamation Board.

(4) If any work is done to improve flow conditions in Putah Creek above the project, it should be coordinated with the District Engineer to insure that proper provisions are made for channel alignment and capacity to conform to the existing project.

(5) The intent of these inspections is to disclose all conditions which in any way affect the stability of the structures and their functioning for the control of floods. Each inspection report should note and comment on any repair measures that have been taken since the last inspection. In making these inspections, the check sheets included as exhibit E shall be explicitly followed.

c. Maintenance.

(1) Pertinent Requirements of the Code of Federal Regulations. Flood Control Regulations, paragraph 208.10 (g) (1), are quoted in part as follows: ".....Immediate steps will be taken to remedy any adverse conditions disclosed by such inspection..."

(2) Shoaling or aggradation at the inlets or outlets of side drainage structures may render them inoperative. It is, therefore, imperative that all drains be kept open and unobstructed at all times.

(3) Dumped rock or other suitable types of protection should be placed at locations found by experience to be critical trouble points, with a view to stabilizing the channel alignment and preserving the general uniformity of the bank lines.

(4) Sediment and debris plugs or other obstructions should be removed from the channel to prevent any tendency for the flows to be deflected within the channel. The heavy material likely to accumulate in the new channel at the mouths of tributaries should be removed to keep the channel clear.

(5) The channel and right-of-way shall be kept reasonably clear of debris, refuse matter, or industrial wastes.

(6) Vegetal growth in the channel which may obstruct flood flows shall be cut in advance of the flood season, and together with all debris, removed from the channel.

Note

\*

Since construction of Monticello Dam has substantially decreased the expected design flows in the channel, it has been concluded that certain vegetal growth will be allowed in the stream waterway to compensate for this reduction in flood flows. If flood flow experience indicates that the allowed vegetal growth is reducing the waterway to a degree that encroaches into the design levee and channel bank freeboard, such clearing will be performed to provide the necessary waterway to accommodate the project design flow. The allowable growth would be approximately as shown on Exhibit I in 7 sheets.

(7) All eroded concrete shall be repaired as soon as erosion approaches a depth of 4 inches. For this purpose, it is recommended that the repair be made by thoroughly cleaning the surface by sandblasting and building up the section with pneumatically placed Portland cement mortar. All evidence of settlement, uplift, or failure of concrete structures shall be referred to the State Engineer for analysis and remedial measures.

(8) All damage to fencing, whether resulting from accidental or willful injuries or from corrosion, shall be promptly repaired with new material in order to maintain satisfactory protection to the public.

(9) All subdrainage structures which have become cemented due to the evaporation of ground water or other causes, shall be thoroughly cleaned out and repacked with fresh gravel.

d. Operation.

(1) Pertinent Requirements of the Code of Federal Regulations. Flood Control Regulations, paragraph 208.10 (g) (2), are quoted in part as follows:

"(g) Channels and floodways. (2) Operation. Both banks of the channel shall be patrolled during periods of high water.... Appropriate measures shall be taken to prevent the formation of jams... of debris. Large objects which become lodged against the bank shall be removed. The improved channel or floodway shall be thoroughly inspected immediately following each major highwater period. As soon as practicable thereafter all snags and other debris shall be removed and all damage to.... walls, drainage outlets or other flood control structures repaired."

(2) It shall be the duty of the Superintendent to maintain a patrol of the project works during all periods of flow in excess of a reading of 25.0 on the recording gage at the station 6 miles west of Winters, as indicated in paragraph 1-06 of this manual. The Superintendent shall dispatch a message by the most suitable means to the District Engineer whenever the water surface in the channel reaches the gage reading of 25.0 feet. The Superintendent shall also cause readings to be taken at the gage at intervals of one to two hours during the period when the water surface is above the floodflow stage indicated above and record the time of the observations. One copy of the reading shall be forwarded to the District Engineer immediately following the flood, and a second copy transmitted as an inclosure to the semi-annual report in compliance with paragraph 3-03c of the standard manual.

2-02. Levees

a. Description. The levees described in this manual are located on both banks of Putah Creek and on the westerly edge of the Yolo Bypass. The north levee of Putah Creek begins at a point 0.81 mile upstream from the bridge at Interstate 80, 2 miles southwest of Davis, California, and extends downstream \* to the west levee of the Yolo Bypass. The south levee of Putah Creek begins at \* a point 1.52 miles upstream from the bridge of Interstate 80 and extends downstream to the westerly edge of the Yolo Bypass, terminating at high ground above the flood plane profile. The west levee of the Yolo Bypass is located on the westerly edge of the Yolo Bypass and extends from the Yolo Causeway southerly 3 miles to the north levee of Putah Creek. All levees of this unit were built to adopted grade and section by new construction and provide a freeboard above the flood plane profile as indicated in paragraph 1-02 of this manual. The crown of the levee was surfaced with crushed rock 4 inches in depth and 12 feet in width, as indicated on Drawing No. 50-4-2396, sheets 2 and 4 (see Exhibit B). Required turnouts and road approaches were constructed. These items are shown in the drawings of Exhibit B. Structures affecting levee maintenance are listed in Exhibit E.

b. Inspection.

(1) Pertinent Requirements of the Code of Federal Regulations.  
Flood Control Regulations, paragraph 208.10 (b) (1), are quoted in part as follows:

- "(b) Levees - (1) Maintenance....Periodic inspection shall be made by the Superintendent.... to insure that:
- (i) No unusual settlement, sloughing, or material loss of grade or levee cross section has taken place;
  - (ii) No caving has occurred on either the landside or the riverside of the levee which might affect the stability of the levee section;
  - (iii) No seepage, saturated areas, or sand boils are occurring;
  - (iv) Toe drainage systems and pressure relief wells are in good working condition, and that such facilities are not becoming clogged;
  - (v) Drains through the levees and gates on said drains are in good working condition;
  - (vi) No revetment work or riprap has been displaced, washed out, or removed;
  - (vii) No action is being taken, such as burning grass and weeds, during inappropriate seasons, which will retard or destroy the growth of sod; (see Note (a) at end of subparagraph (1).
  - (viii) Access roads to and on the levee are being properly maintained;
  - (ix) Cattle guards and gates are in good condition;
  - (x) Crown of levee is shaped so as to drain readily, and roadway thereon, if any, is well shaped and maintained;
  - (xi) There is no unauthorized grazing or vehicular traffic on the levees;
  - (xii) Encroachments are not being made on the levee right-of-way which might endanger the structure or hinder its proper and efficient functioning during time of emergency.

Such inspections shall be made immediately prior to the beginning of the flood season immediately following each major high water period, and otherwise at intervals not exceeding 90 days; and such intermediate times as may be necessary to insure the best possible care of the levee..."

Note (a)

Since the growth of sod on the slopes of the levees of this project is not practicable and as the nature of the levee growth warrants burning thereof to facilitate inspection, the provisions of subparagraph b(1) of the regulations inconsistent therewith shall not apply. In place of item (vii), therefore, the following shall be observed:

Weeds, grasses and debris on the levee are burned during appropriate seasons, where not dangerous or impracticable, in order to permit the detection of cracks, holes, burrows, slips, and other damage and to permit the detection and extermination of burrowing animals and that grass and weeds on levee slopes be mowed where removal by burning is dangerous or impracticable, such as on peat levees or where burning would constitute a hazard.

(2) To insure the taking of such maintenance measures as will be required for proper functioning of the levee, the following items shall be specifically covered in each inspection:

- (a) Aggradation or degradation of the stream bed along the toe.
- (b) Settlement of levee fill.
- (c) Erosion of both slopes of levee.
- (d) Presence of seepage, saturated areas, or sand boils back of levee.
- (e) Condition of access roads and levee surfacing.

c. Maintenance.

(1) Repairs to Levee Embankment. Methods used for repair or reconstruction of the levee fill will depend on the extent of the damaged section. If of small extent, the most suitable method will be to bring the levee back to line and grade by a fill made in 6-inch layers of earth free from brush, roots or other unsuitable material. If of larger extent, the fill should be made in the same manner as the original construction, of selected material from the borrow pits approved for the project, placed in uniform layers of loose material and not more than 6 inches in depth and compacted in accordance with the specifications under which the work was completed.

(2) Depredations of Burrowing Animals. Dens and runways formed within the levee by burrowing animals are frequently the causes of levee failures during flood stages. Burrowing animals such as muskrats, ground hogs, ground squirrels, moles and gophers, found in the levee should be exterminated. The dens and runways should be opened up and thoroughly compacted as they are backfilled. Levees kept properly cleared are not seriously menaced by burrowing animals as they prefer areas where a protective cover, such as high grass, weeds, and brush, is found. Several methods of extermination are found effective, such as trapping, baiting, and poison gases, depending on the type of animal present and the time of year the work is done. Advice concerning the best methods in each locality can be obtained from the County Agricultural Agent.

(3) Access Roads. Access Roads to the levees shall be maintained in such condition that they will be accessible at all times to trucks used to transport equipment and supplies for maintenance or flood fighting.

d. Operation.

(1) Pertinent Requirements of the Code of Federal Regulations. Flood Control Regulations paragraph 208.10 (b) (2) is quoted in part as follows:

"(2) Operation. During flood periods, the levee shall be patrolled continuously to locate possible sand boils or unusual wetness of the landward slope to be certain that:

- (i) There are no indications of slides or sloughs developing;
- (ii) Wave wash or scouring action is not occurring;
- (iii) No low reaches of levee exist which may be overtopped;

(iv) No other conditions exist which might endanger the structures;

(v) Appropriate advance measures will be taken to insure the availability of adequate labor and materials to meet all contingencies. Immediate steps will be taken to control any condition which endangers the levee and to repair the damaged section."

2-03. Drainage and Irrigation Structures.

a. Description. Drainage and irrigation structures provided in the project works are located and described as follows:

(1) Corrugated metal pipes extending through the levees to drain the areas adjacent to the Putah Creek channel are as listed in the following table:

Location Station	Bank	C. M. P.	Gate Model No. (a)	Description
0/62	Left	48"	100	(b)
T1/45	Right	36"	100	(b)
1/50 PCT	Left	24"	100	(b)
172/00 PCT	Left	24"	100	(c)
183/97 PCT	Left	24"	100	(c)
193/20 PCT	Left	24"	100	(c)
197/60 PCT	Right	24"	100	(b)
225/15 PCT	Left	24"	100	(c)
262/30 PCT	Left	48"	100	(b)
<u>West Levee Yolo Bypass</u>				
80/00		48"	100	(b)

(2) Corrugated metal pipes extending through the levees to irrigate the areas adjacent to the Putah Creek channel are as listed in the following table:

Location Station	Bank	C. M. P.	Gate Model No. (a)	Description
17/71	Left	24"	101	(c)
31/00	Left	24"	101	(c)
G198/85	Left	24"	101	(b)
12/65	Right	24"	1001	(b)
T16/70	Left	24"	101	(b)
P213/00	Left	24"	101	(c)
P233/00	Right	24"	101	(c)
P239/20	Left	24"	101	(c)
P265/70	Right	24"	101	(c)
17/00 PCT	Left	24"	101	(b)
30/15 PCT	Right	24"	101	(c)
31/50 PCT	Left	24"	101	(c)
50/72 PCT	Right	24"	101	(c)
56/25 PCT	Left	24"	101	(c)
83/70 PCT	Left	24"	101	(c)
84/40 PCT	Left	24"	101	(c)
97/00PCT	Left	24"	101	(c)
98/00 PCT	Right	24"	101	(c)
108/00 PCT	Left	24"	101	(c)
109/75 PCT	Right	24"	101	(c)
136/40 PCT	Right	24"	101	(c)
145/50 PCT	Left	24"	101	(c)
158/60 PCT	Right	24"	101	(c)
163/23 PCT	Left	24"	101	(c)
177/80 PCT	Right	24"	101	(c)
193/00 PCT	Right	24"	101	(c)
204/00 PCT	Left	24"	101	(c)
208/00 PCT	Right	24"	101	(c)
241/50 PCT	Left	24"	101	(c)
237/50 PCT	Right	24"	101	(c)
244/20 PCT	Left	24"	101	(c)
258/12 PCT	Left	8"	101	(c)

Notes pertaining to tables: (a) Gate Model No. 100 is a Calco automatic drainage gate on outlet end of pipe. It closes against face pressure and opens automatically to permit out-flow when pressure is released.

Gate Model No. 101 is a Calco slide gate which operates by handscrew on a steel frame.

Gate Model No. 1001 is a combination gate which includes the features of gates No. 100 and 101.

- (b) With 2 C.M. cut-off walls, 1 reinforced concrete headwall and 1 saddle and apron with cobble paving on channel side.
- (c) With 2 C.M. cut-off walls, 2 reinforced concrete headwalls and 1 saddle and apron.

b. Inspection.

(1) Pertinent Requirements of the Code of Federal Regulations. Flood Control Regulations, paragraph 208.10 (d)(1), are quoted in part as follows:

"(d) Drainage Structures (1) Maintenance - Adequate measures shall be taken to insure that inlet and outlet channels are kept open and that trash, drift, or debris is not allowed to accumulate near drainage structures. Flap gates and manually operated gates and valves on drainage structures shall be examined, oiled and trial operated at least once every 90 days ..... Periodic inspections shall be made by the Superintendent to be certain that:

- (i) Pipes, gates, operating mechanism, riprap and headwalls are in good condition;
- (ii) Inlet and outlet channels are open;
- (iii) Care is being exercised to prevent the accumulation of trash and debris near the structures and that no fires are being built near bituminous coated pipes;
- (iv) Erosion is not occurring adjacent to the structures which might endanger its water tightness or stability.

Immediate steps will be taken to repair damage, replace missing or broken parts, or remedy adverse conditions disclosed by such inspections."

(2) At each inspection required by paragraph 4-02(b) (2), of the Standard Manual, the following items, if applicable, shall be particularly noted:

- (a) Debris or other obstructions to flow.
- (b) Condition of pipes and gates.
- (c) Damage or settlement of pipe.
- (d) Condition of concrete - cracks, spalls, erosion.

c. Maintenance.

(1) All eroded concrete shall be repaired as soon as any reinforcing steel is exposed. For this purpose it is recommended that the repair be made by thoroughly cleaning the surface by sand-blasting and building up the concrete to its original section with pneumatically-placed Portland cement mortar. All evidences of settlement, uplift, or failure of concrete structures should be referred to the State Engineer for analysis and recommendation of remedial measures.

(2) If the inspection shows that the automatic drainage structures have been jammed in an open position by debris or other obstructions, they shall be thoroughly cleaned so that they swing freely to a true closure. If any parts of the gates have been damaged or broken, they shall be replaced by new parts.

(3) Compliance with the provisions prescribed above pertaining to drainage structures is essential for proper maintenance of the levee system covered by this manual. Levee failures caused by neglected drainage structures are of common occurrence; it is, therefore, of utmost importance that these structures always be kept in perfect working condition in accordance with the regulations.

(4) Care should be taken not to bury any of the side drainage inlets in the event that it becomes necessary to fill any of the low-lying pockets in back of the levee. Plans for the maintenance of drainage facilities at any such points should be submitted to the State Engineer for approval before such work is started.

d. Operation.

(1) Pertinent Regulations of the Code of Federal Regulations. Flood Control Regulations, paragraph 208.10 (d)(2), is quoted in part as follows:

Operation. Whenever high water conditions impend, all gates will be inspected a short time before water reaches the invert of the pipe and objects which might prevent closure of the gate shall be removed. Automatic gates shall be closely observed until it has been ascertained that they are securely closed..... All drainage structures in the levees shall be inspected frequently during floods to ascertain whether seepage is taking place along the lines of their contact with the embankment. Immediate steps shall be taken to correct any adverse conditions."

(2) The outlets of side drainage structures inundate at relatively low river stages. They should, therefore, be inspected at the first sign of a rise in the river to make certain that the gates are not jammed in an open position and thus allow waters to enter behind the levee.

#### 2-04. Miscellaneous Facilities.

a. Description. Miscellaneous structures or facilities which were constructed as a part of, or in conjunction with, the protective works, and which might affect their functioning, include the following:

(1) A concrete retaining wall constructed adjacent to the University of California sewage filter bed. The proximity of the University of California sewage filter bed necessitated the construction of a concrete levee for a distance of 310 feet fronting the sewage filter bed.

(2) Because of its poor condition, the Liberty Island Road bridge which crossed Putah Creek at Station 0+00 = P267+33.49 was dismantled by local interests and was replaced by low-water crossing financed jointly by the counties of Solano and Yolo and the State Reclamation Board.

(3) Minor changes were made in some utilities, but most of them were left undisturbed during the channel improvement work.

### SECTION III

#### REPAIR OF DAMAGE TO PROJECT WORKS AND

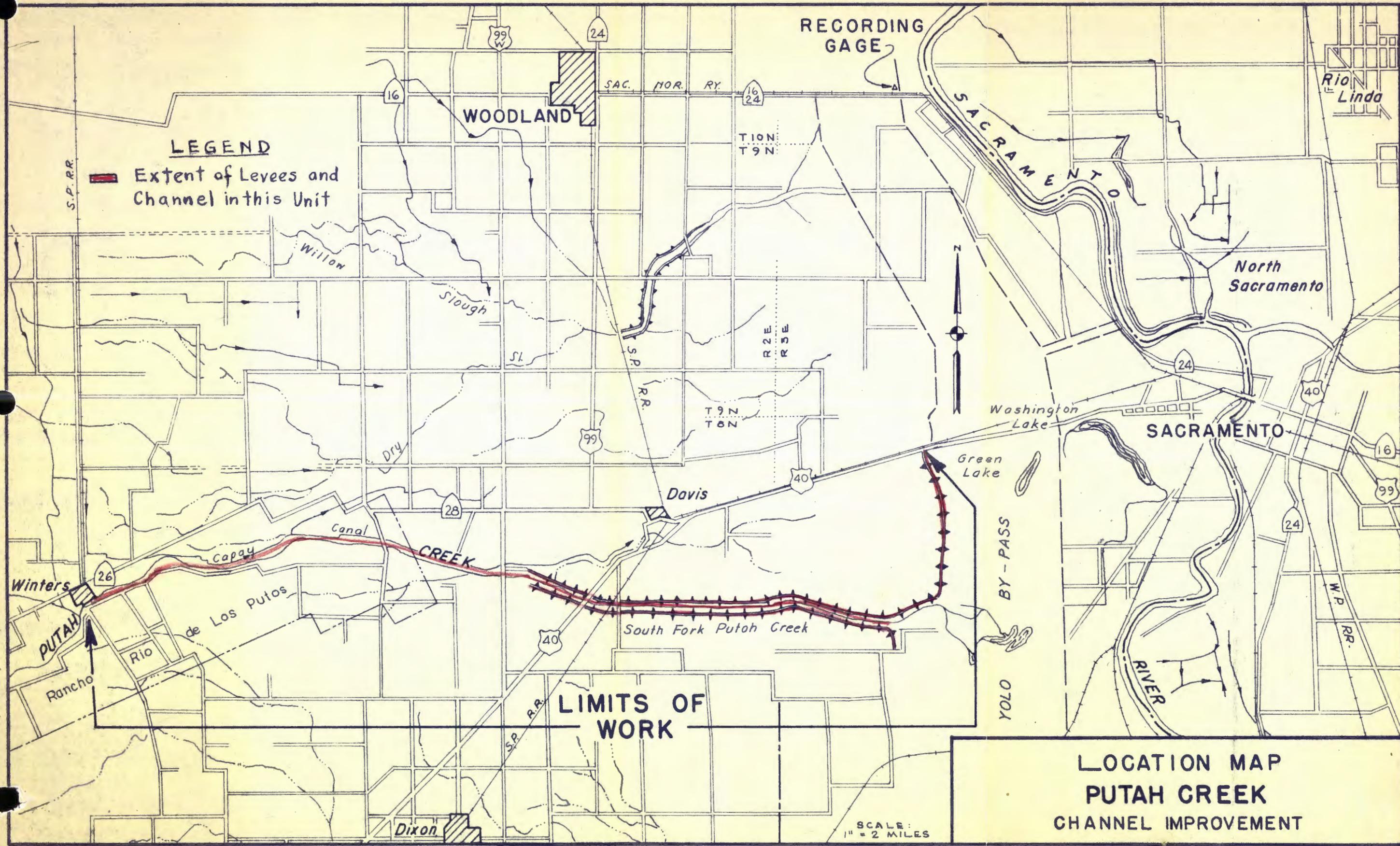
#### METHODS OF COMBATING FLOOD CONDITIONS

3-01. Repair of Damage. In the event of serious damage to the project works, whether due to flood conditions or other causes, and which may be beyond the capability of local interests to repair, the Superintendent will contact a representative of the Division of Water Resources, State of California, who coordinates maintenance of project works of the Sacramento River Flood Control Project. The State representative will give assistance or advice, or will determine appropriate action to be taken.

3-02. Applicable Methods. For applicable methods of combating flood conditions, reference is made to Section V of the Standard Manual, where the subject is fully covered.

EXHIBIT A

FLOOD CONTROL REGULATIONS  
(See Standard Manual)



**LEGEND**

**—** Extent of Levees and Channel in this Unit

**LIMITS OF WORK**

**LOCATION MAP  
PUTAH CREEK  
CHANNEL IMPROVEMENT**

SCALE:  
1" = 2 MILES

EXHIBIT "B"  
"AS CONSTRUCTED"  
DRAWINGS

See separate folder for the following drawings:

- |           |  |
|-----------|--|
| 50-4-2280 | West Levee of Yolo Bypass from Causeway Southerly 3.0 miles, sheets 1 and 2.   |
| 50-4-2396 | Levee Construction along North and South Banks of Putah Creek from West Levee of Yolo Bypass upstream 9.4 miles, sheets 1 thru 16. |
| 50-6-2581 | Putah Creek Channel Clearing from approx. 1 mile above U.S. 40 Highway Bridge upstream to Winters, sheets 1 thru 9.                |
| 50-4-1825 | Sacramento River Flood Control Project - Standard Irrigation and Drainage Structures, 1 sheet.                                     |

EXHIBIT C

PLATES OF SUGGESTED FLOOD FIGHTING METHODS  
(See Standard Manual)

EXHIBIT D

CHECK LIST NO. 1

LEVEE INSPECTION REPORT  
(See Standard Manual)

EXHIBIT E

For definition of "flood" or "high water period" see paragraph 1-06 of this manual.

CHECK LIST NO. 2

LEVEES OF PUTAH CREEK

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

Date \_\_\_\_\_ Superintendent \_\_\_\_\_

Item	Remarks
(a) Location by Station	
(b) Settlement, sloughing, or loss of grade.	
(c) Erosion of both slopes.	
(d) Condition of roadways, including ramps.	
(e) Evidence of seepage.	
(f) Condition of farm gates and fencing.	
(g) Maintenance measures taken since last inspection.	
(h) Condition of retaining walls and outlets	
(i) Comments:	

Instructions for Completing Sheet 2, Exhibit E.  
(To be printed on back of sheet 2)

- Item (a) Indicate levee station of observation, obtained by pacing from nearest reference point; indicate right or left bank.
- Item (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 the new slope. Note areas where erosion or gulying of the section has occurred.
- Item (c) If sufficient erosion or gulying of back face or back toe of levee has taken place to be noticeable by visual inspection, indicate area affected and depth.
- Item (d) Note any natural change in grade and section of roadway or ramps. Indicate any inadequacy in surface drainage system.
- Item (e) Indicate any evidence of seepage through the embankment section.
- Item (f) Indicate the serviceability of all farm gates across the embankments and roadways, and indicate if repainting is required.
- Item (g) Indicate maintenance measures that have been performed since last inspection and their condition at the time of this inspection
- Item (h) Record opinion, if any, of contributory causes for conditions observed and also any observations not covered under other columns.

NOTE: One copy of the Inspector's Report is to be mailed to the District Engineer immediately on completion, and one copy is to be attached to and submitted with the Superintendent's semi-annual report.

CHECK LIST NO. 3

CHANNEL AND RIGHT-OF-WAY

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

Date \_\_\_\_\_ Superintendent \_\_\_\_\_

Item \_\_\_\_\_ Remarks \_\_\_\_\_

(a) Name of channel and location by stations.

(b) Vegetal growth in channel

(c) Debris and refuse in channel

(d) New construction within right-of-way.

(e) Extent of aggradation or degradation

(f) Condition of riprapped section

(g) Condition of bridges

(h) Measures taken since last inspection

(i) Comments

Instructions for Completing Sheet 4, Exhibit E  
(To be printed on the back of sheet 4)

- Item (a) Indicate station of observation obtained by pacing from nearest reference point.
- Item (b) Note nature, extent, and size of vegetal growth within the limits of the flood flow channel.
- Item (c) Note nature and extent of debris and refuse that might cause clogging of the conduits of the irrigation intake works, fouling of the tainter gates, or the bridges over the channel.
- Item (d) Report any construction along the diversion channel or above the diversion works that has come to the attention of the inspector and that might affect the functioning of the project.
- Item (e) Indicate any change in grade or alignment of the channels, either by deposition of sediment or scour, that is noticeable by visual inspection. Estimate amount and extent.
- Item (f) Indicate any change that has taken place in the riprap such as disintegration of the rock, erosion, or movement of the rock. Note the presence of vegetal growth through the riprap.
- Item (g) Note any damage or settlement of the footings of the bridges. Indicate condition of wooden structures and if repainting is required. Indicate condition of bridge approaches, headwalls, and other appurtenances.
- Item (h) Indicate maintenance measures that have been performed since the last inspection and their condition at time of this inspection.
- Item (i) Record opinion, if any, of contributory causes for conditions observed, and also any observations not covered under other columns.

NOTE: One copy of the Inspector's Report is to be mailed to the District Engineer immediately on completion, and one copy is to be attached to and submitted with the Superintendent's semi-annual report.

CHECK LIST NO. 4

DRAINAGE AND IRRIGATION STRUCTURES

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

Inspector \_\_\_\_\_

Date \_\_\_\_\_

Superintendent \_\_\_\_\_

(a) Location by Station	(g) Bank	(c) Debris or other obstruction to flow	(f) Damage or settlement of pipe or conduit	(e) Condition of concrete headwall or invert paving	(4) Condition of right-of-way adjacent to structure	(3) Repair measures taken since last inspection	(d) Comments
<u>PUTAH CREEK</u>							
0+62	Left						
12+65	Right						
17+71	Left						
31+00	"						
G 198+85	"						
T 1+45	Right						
T 16+70	Left						
P 213+00	"						
P 233+00	Right						
P 239+20	Left						
P 265+70	Right						
1+50 PCT	Left						
17+00 PCT	Left						
30+15 PCT	Right						
31+50 PCT	Left						
50+72 PCT	Right						
56+25 PCT	Left						
83+70 PCT	"						
84+40 PCT	"						

CHECK LIST NO. 4

DRAINAGE AND IRRIGATION STRUCTURES

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

Inspector \_\_\_\_\_

Date \_\_\_\_\_

Superintendent \_\_\_\_\_

(a) Location by Station	(b) Bank	(c) Debris or other obstruction to flow	(d) Damage or settlement of pipe or conduit	(e) Condition of concrete headwall or invert paving	(f) Condition of right-of-way adjacent to structure	(g) Repair measures taken since last inspection	(h) Comments
	<u>Putah Creek</u>						
97/00 PCT	Left						
98/00 PCT	Right						
108/00 PCT	Left						
109/75 PCT	Right						
136/40 PCT	Right						
145/50 PCT	Left						
158/60 PCT	Right						
163/23 PCT	Left						
172/00 PCT	Left						
177/80 PCT	Right						
183/97 PCT	Left						
193/00 PCT	Right						
193/20 PCT	Left						
197/60 PCT	Right						
204/00 PCT	Left						
208/00 PCT	Right						
225/15 PCT	Left						
237/50 PCT	Right						
241/50 PCT	Left						

CHECK LIST NO. 4

DRAINAGE AND IRRIGATION STRUCTURES

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

Inspector \_\_\_\_\_

Date \_\_\_\_\_

Superintendent \_\_\_\_\_

(a) Location by Station	(b) Bank	(c) Debris or other obstruction to flow	(d) Damage or settlement of pipe or conduit	(e) Condition of concrete headwall or invert paving	(f) Condition of right- of-way adjacent to structure	(g) Repair measures taken since last inspection	(h) Comments
<p><u>Putah Creek</u></p> <p>244 / 20 PCT 258 / 12 PCT 262 / 30 PCT</p> <p>West Levee Yolo By-Pass:</p> <p>80 / 00</p>	<p>Left Left Left</p> <p>Right</p>						

Instructions for completing sheets 6, 7, and 8, Exhibit E  
(To be printed on backs of sheets 6, 7, and 8)

- (1) Enter station of all structures under column (a) for check list.
- (2) Inspect inlet, barrel, and outlet for accumulation of sediment, rubbish, and vegetal matter.

Note condition under column (c).

- (3) If any settlement or damage to the pipe, barrel, or invert of the drain has occurred, estimate the location and amount. Note particularly if any of the backfill has come into the pipe or been disturbed. Record observations under column (d).

- (4) Inspect the concrete portions of the structures for evidence of settlement, cracks, "pop-outs", spaces, abrasive wear, or other deterioration. Record conditions under column (e).

- (5) Inspect backfill area adjacent to structure for evidence of erosion caused by overflow of the drainage structure and note conditions in column (f).

- (6) Under column (g) indicate physical measures that have been taken to correct conditions reported in last inspection, and their condition at time of this inspection.

- (7) Under column (h) record opinion, if any, of contributory causes for conditions observed, and also any observations not covered under other columns.

- (8) A copy of the Inspector's Report is to be mailed to the District Engineer immediately on completion, and a record copy shall be attached to the Superintendent's semi-annual report.

EXHIBIT F

LETTER OF ACCEPTANCE

BY STATE RECLAMATION BOARD



DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT  
1325 J STREET  
SACRAMENTO CA 95814-2922

NOV 29 2016

Ms. Leslie M. Gallagher  
Executive Officer  
Central Valley Flood Protection Board  
3310 El Camino Avenue, Room 151  
Sacramento, CA 95821

Dear Ms. Gallagher:

The purpose of this letter is to notify the Central Valley Flood Protection Board of the completion of an effort to update the Operation and Maintenance Manual Supplements for the Sacramento River Flood Control Project and the Lower San Joaquin River Levees and Lower San Joaquin River and Tributaries Project. These updates are a compilation of revisions made to the project over time and where we had record of a transfer letter to the Board. These updated supplements are the most current version and should be utilized as the baseline version for any future project modifications.

This process and the compiled updates have been coordinated with the Central Valley Flood Protection Board and Department of Water Resources staffs for review and comment. All comments have been addressed or incorporated into the manuals.

The Board staff has been provided a copy of the manuals in electronic format. Future updates will include entire unit supplements so updates can be seen in context with the entire unit supplement. The list of completed supplements, by the unit number and title, are attached. If you have any questions regarding this transmittal, please contact Gary Kamei at 916-557-6845.

Sincerely,

A handwritten signature in black ink, appearing to read "D. G. Ray", written over a horizontal line.

David G. Ray, P.E.  
Colonel, U.S. Army  
District Commander

Enclosures

<b>Standard O&amp;M Manual Sacramento River Flood Control Project</b>	
<b>Unit No.</b>	<b>Project Name</b>
101	RD 341 Sherman Island
102	E. Levee of Sac River, Isleton to Threemile Slough & N. Levee of Threemile Slough from Sac River to SJ River
103	Both Levees of Georgiana Slough & E. Levee of Sac River from Walnut Grove to Isleton
104	Levees around Grand Island
105	Levees Around Reyer Island
106	S. Levee Lindsey Slough & W. Levee of Yolo BP from Lindsey Slough to Watson Hollow and N. Levee of Watson Hollow Drain
107	Levees Around Hastings Tract
108	Levees Around Peters Tract
109	West Levee of Yolo Bypass & E. Levee of Cache Slough
110	Levees Around Sutter Island
111	E. Levee of Sac River from Freeport to Walnut Grove
112	Levees Around Merritt Island
113	E. Levee Yolo Bypass, N. Levee Miner Slough, W. Levees Sutter Slough, Elkhorn Slough & Sac River, All Bordering RD 999
114	W. Levee of Sac River from Northern Boundary of RD 765 to Southern Boundary of RD 307
115	E. Levee of Sac River from Sutterville Rd to Northern Boundary of RD 744
116	W. Levee of Sac River from Sac Weir to Mi 51.2 & S. Levee of Sac Bypass & E. Levee of Yolo Bypass from Sac Bypass to Southern Boundary of RD 900
117	E. Levee Sac River through City of Sac from Tower Bridge to Sutterville Rd
118.1	E. Levee of Sac River from American River to Tower Bridge & S. Levee of American River from Mayhews Downstream to Sac River
118.2	N. Levee American River, E. Levee Natomas Canal, Both Levees Arcade Creek, S. Levee Linda Creek, & Magpie Creek Diversion Channel
118.2 Sup	Vegetation on Mitigation Sites E. Levee of Sac River from American River to Tower Bridge & S. Levee of American River from Mayhews Downstream to Sac River
119	Putah Creek Channel & Levees & W. Levee of Yolo Bypass from Yolo Causeway Downstream 3 mi. Includes O&M manual for the Yolo Basin wetlands, and South Fork Putah Creek Preserve Restoration Section 1135 Authorization.
120	Relocated Willow Slough Channel & Levees & W. Levee Yolo Bypass from mouth of Relocated Willow Slough to Yolo Causeway
121	R. Levee of Yolo Bypass from Willow Slough Bypass to Woodland Rd RD2035
122.1	W. Levee of Sac River from Mi 70.8 to Sac Weir & N. Levee of Sac Bypass & E. Levee of Yolo Bypass from Woodland Hwy to Sac Bypass
123	W. Levee of Sac River from East End of Fremont Weir to Mi 70.8 & E. Levee of Yolo Bypass from East End Fremont Weir to Woodland Hwy RD 1600

124	N. Levee of American River from Natomas E. Canal to Sac River & E. Levee of Sac River from Natomas Cross Canal to American River. Includes supplement, Vegetation on Mitigation Sites.
125	Back Levee of RD 1000
126	Cache Creek Levees & Settling Basin Yolo Bypass to High Ground
127	Knights Landing Ridge Cut & Sac River & Yolo BP Levees of RD's 730 and 819 & S. Levee of Sycamore Slough
128	E. Levee of Sac River from Sutter Bypass to Tisdale Weir all within RD 1500
129	S. Levee of Tisdale By-Pass from E. Levee Sac River to W. Levee Sutter BP & W. Levee of Sutter BP Downstream to E. Levee of Sac River
130	W. Levee Sac River from Sycamore Slough to Wilkins Slough (Mi. 89.9 to Mi. 117.8)
131	W. Levee Sac River from Wilkins Slough to Colusa (Mi. 117.8 to Mi. 143.5)
132	Back Levees of RD 108
133	E. Levee of Sac River from Winship School to Tisdale BP & N. Levee of Tisdale BP & W. Levee of Sutter BP from Long Bridge to Tisdale BP
134	Levees of RD 70, E. Levee of Sac River from Butte Slough Outfall Gates to Winship School & W. Levee of Sutter BP from Butte Slough Outfall Gates to Long Bridge
135	E. Levee of Sutter BP from Sutter Buttes Southerly to Junction with Feather River & E. & W. Levees of Wadsworth Canal & Levee of Intercepting Canals
136	E. Levee of Sac River from Butte Slough Outfall Gates to the Princeton-Afton Rd (Mi. 138.3 to Mi. 164.4)
137	W. Levee of Sac River from North End of Princeton Warehouse to Colusa Bridge
138	E. Levee of Sac River from Parrott-Grant Line to Princeton-Afton Rd
139	W. Levee of Sac River from N. Boundary of LD 2 to North End of Princeton Warehouse
140	W. Levee of Sac River in LD 1 (Mi. 170.5 to Mi. 184.7). Includes mitigation site O&M manual, Yuba County
141.1	E. Levee of Feather River from Bear River to Natomas CC & S. Levee of Bear River & Both Levees of Yankee Slough. Parts 1 and 2
141.2	E. Levee of Feather River from Bear River to Natomas CC & S. Levee of Bear River & Both Levees of Yankee Slough. Parts 1 and 2
142	Back Levee of RD 1001
143	W. Levee of Feather River from North Boundary of RD 823 to E. Levee of Sutter Bypass
144	W. Levee of Feather River from North Boundary of LD 1 to North Boundary of RD 823
145	E. Levee of Feather River, S. Levee of Yuba River, Both Levees of WPRR Intercepting Channel, W. Levee of South Dry Creek & N. Levee of Bear River
146	N. Levee of Bear River & S. Levee of South Dry Creek RD 817 & Vicinity of Wheatland
147	Levee Around the City of Marysville & N. Levee of Yuba River to a Point 1.8 Mi. Upstream from Marysville

148	W. Levee of Feather River from North Boundary of RD 777 to North Boundary of LD 1
149	S. Levee of Yuba River Maintenance Area No. 8
151	E. Levee Feather River from Honcut Creek to Marysville & S. Levee of Honcut Creek & E. Levee of RD 10
152	W. Levee of Feather River from N. Boundary of RD 777 to Western Canal Intake (Levee of Drainage District No. 1)
153	Lower Butte Creek Channel Improvement, Colusa, Glenn & Butte Counties
154	Moulton Weir & Training Levee Sacramento River
155	Colusa Weir & Training Levee Sacramento River
156	Tisdale Weir & Bypass
157	Fremont Weir, Sacramento River
158	Sacramento Weir, Sacramento River
159	Pumping Plants No. 1, 2 & 3, Sutter Bypass
160	Sutter Butte Canal Headgate
161	Butte Slough Outfall Gates
162	Knights Landing Outfall Gates, Sacramento River

**Standard O&M Manual San Joaquin River**

<b>Unit No.</b>	<b>Project Name</b>
1	Right Bank Levee of the San Joaquin River & French Camp Slough within RD 404
2	Right Bank Levee of the San Joaquin River & French Camp Slough within RD 17
3	North Levee of Stanislaus River & East Levee of the San Joaquin River within RD 2064, 2075, 2094 and 2096
4	East Levee of San Joaquin River within RD 2031
5	East Levee of the San Joaquin River Within RD No. 2092
6	East Levee of the San Joaquin River in RD Nos. 2063 & 2091
7	West Levee of San Joaquin River & North Levee of Old River RD Nos. 524 & 544
8	Right Banks of Old River & Salmon Slough Within RD No. 1 & RD No. 2089
9	Levees Around RD No. 2062 & San Joaquin County Flood Control District Area No.2
10	West Levee of Paradise Cut RD No. 2058 & SJ County Flood Control District, Area No.2
11	West Levee of San Joaquin River from Durham Bridge to Paradise Dam Within RD No. 2085 & 2095
12	West Levee of San Joaquin River From Opposite Mouth of Tuolumne River Downstream to Stanislaus County Line Within RD Nos. 2099, 2100, 2101, & 2102
13	West Levee of the San Joaquin River in RD No. 1602

STATE RECLAMATION BOARD

February 27, 1975

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Y

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Y

District Engineer  
Sacramento District  
U. S. Army Corps of Engineers  
650 Capitol Mall  
Sacramento, CA 95814

Dear Sir:

Your letter of November 18, 1974 transmitted a draft of the proposed revision to the Operation and Maintenance Manual, "Putah Creek Channel and Levees and West Levee of Yolo Bypass from Yolo Causeway Downstream 3 Miles - Unit No. 119" for review and comments.

The draft revision has been reviewed by the Central District and the legal staff of the Department of Water Resources and has been found to be satisfactory. The Reclamation Board therefore concurs with the conclusions by the Corps of Engineers as reflected in the subject draft revision.

Sincerely,

/s/A. E. McCollam  
A. E. McCOLLAM  
Chief Engineer and  
General Manager

EXHIBIT F

C  
O  
P  
Y

State Reclamation Board Letterhead

April 20, 1951

District Engineer  
Sacramento District  
U. S. Corps of Engineers  
P. O. Box 1739

Dear Sir:

Reference your file PSKKO-P, December 12, 1950, transferring to the State the maintenance of the west levee of Yolo By-pass from the Causeway (Highway 40), southerly three miles, and the levees along both banks of Putah Creek from the west levee of Yolo By-pass upstream 9.4 miles.

Also reference same file number, letter of December 21, 1950, transferring to the State the clearing of the Putah Creek channel from approximately one mile above U. S. Highway 40 Bridge upstream to Winters.

Also reference your file PSKKO-P 824.3 (SAC. R.) 3 February 1951, in which referenced letter you answered certain problems which arose out of joint inspection of the Putah Creek Project and in which you stated that your office concurs in the contention that remedial action is necessary to prevent the scour that is occurring against the levee on the William Hamel property.

The Reclamation Board at its meeting April 18, 1951, ordered that the three sections of construction project outlined in the three referenced letters above, and to this office comprising the Putah Creek Project, be accepted by the State of California for maintenance and operation with the condition that the scour on the William Hamel property be remedied by the U. S. Engineers pursuant to the statement in your letter of 3 February 1951.

Yours very truly

THE RECLAMATION BOARD  
A. M. BARTON  
Chief Engineer and General Manager

By /s/

S. A. HOWAKER  
Assistant Secretary

SAH:emw

Exhibit F

This copy was furnished on 24 Feb. 1953  
B. A.

Accepted Items

December 18, 1951

The Board accepted the transfer from the Corps of Engineers, in letters of dates listed below, the following reaches of levees and their contiguous waterway banks where applicable for flood control operation and maintenance, as complete and meeting the requirements of the Sacramento River Flood Control Project.

No.	Date of Letter	Levee Location	Remarks
①-②	1 Dec.1951	N. and S. Training* Levees Moulton Weir*	Maintained by State
③-④	Do	N. and S. Training* Levees Colusa Weir*	Maintained by State
⑥	3 Dec.1951	W. Levee Sacramento River, Mile 177.5 Mile 174.1	Maintained as Maintenance Area No. 2
⑨	4 Dec.1951	E. Levee Yolo By-pass Fremont* Weir to Miner Slough*	N. 2 mi. maintained by State. Remainder by local districts. Conditioned upon completion of levee section and no acceptance of banks of Sacramento Deep Water Channel.
⑩ ⑪	Do	N.&S. Levees Sacra- mento By-pass*	Maintained by State. Waterward slopes on 4 to 1 not required.
21a	6 Dec.1951	Back levee Egbert District*	Maintained by R. D. No. 536
22	6 Dec.1951	W. Levee Yolo By-pass Lindsey* Slough to Watson Hollow Drain*	Maintained by R. D. No. 536
24	Do	N. Levee Watson Hollow Drain*	Do
16	6 Dec.1951	W. Levee Sacramento River Mile 59.0 to Lake Wash- ington Barge Canal	Maintained by R. D. No. 900
18	Do	W. Levee Sacramento Riv. Mile 50.8 to 50.5	Bank protection contract. Maintained by R. D. No. 765

Copy to USED.

①

Accepted Items

No. Date of Letter

Levee Location

Remarks

6 6 Dec. 1951

Levees of Wadsworth Canal\*  
South levees of E. and W.  
Intercepting Canals.

Maintained by State. Water-  
ward slopes on 4 to 1 not  
required.

12-13-14-15

7 7 Dec. 1951

Site 2 Part A. W. Levee  
Sacramento River-Mile  
28.5 -Grand Island.

Maintained by R.D. No. 3.  
Completed contract.

= 329

87-A

= 331

89-A

Site 1, Part B. E. levee  
Sacramento River-Mile 15.0  
Brannan Island.

Maintained by R.D.No. 2067  
Completed contract.

8 8 Dec. 1951

W. levee Sacramento River  
Mile 163.8 to Mile 143.5  
except 320 ft. at Colusa  
Warehouse & Mile 146.1  
to Mile 146.4.

Maintained as Maintenance  
Area No. 1.

51-52-53-54-55-56-57

8 Do

E. levee Sacramento River,  
Mile 153.3 to Mile 152.7;  
Mile 149.9 to Mile 149.7;  
Mile 149.4 to Mile 149.0;  
at Colusa Weir; Mile 143.3  
to Mile 140.2; Mile 139.3  
to Mile 138.2.

Maintained by State  
Separate completed contracts.

58-59-60-61-62-63

8 Do

E. levee Sacramento River  
Mile 138.2 to Mile 137.9;  
Mile 136.9 to Mile 133.8;  
Mile 133.2 to Mile 132.3;  
Mile 131.8 to Mile 125.9;  
Mile 125.8 to Mile 123.1;  
Mile 122.6 to Mile 122.0.

Maintained by R.D.No. 70,  
Completed contracts.

64-65-66-67-68-69-70

8 Do

West levee, Sutter By-pass\*

Maintained by R.D.Nos. 70,  
1660, 1500. Condition upon  
completion of remaining  
part to standard section.

71-72-73

8 Do

North levee Tisdale  
By-pass†

Maintained by R.D.No. 1660.  
Waterward slope of 4 to 1  
not required.

74

8 Do

South levee Tisdale  
By-pass†

Maintained by R.D.No. 1500.  
Waterward slope of 4 to 1  
not required.

75

8 Do

East levee Sutter  
By-pass\*.

Maintained by State.

76

9 Do

W. levee Sacramento River  
Mile 35.15 to 35.86.

Maintained by R.D.No. 150  
(Merritt Island). Completed  
contract bank protection.

81

21  
2

Accepted Items

No.	Date of Letter	Levee Location	Remarks
(91) 10	8 Dec. 1951	Cross levee Steamboat Slough to Sacramento River.*	Maintained by R.D. No. 3 (along U.S.spoil bank).
(140) 11	Do	N. levee American River from Jibboom St. Bridge to Sacramento River.	Maintained by R.D. No. 1000.
(141) 11	Do	E. levee Sacramento River American River to Natomas Cut.	Maintained by R.D.No. 1000.
(142) 11	Do	E. bank Sacramento River At Moulton Weir.	Maintained by State.
(143) 11	Do	E. Levee Sacramento River Mile 158.5 to Mile 164.4.	Maintained partly by State; remainder by Levee District.No. 3, Glenn County, Completed Contract.
(146) 11	Do	W. levee Sacramento River Mile 61.8 to Mile 62.65.	Maintained by Maintenance Area No. 4. Completed contract.
(147) 11	Do	W. Levee Sacramento River Mile 62.65 to Mile 63.1.	Maintained by R.D. No. 537 Completed contract.
(148) 11	Do	Sacramento Weir.	Maintained by State.
(152) 11	Do	Fremont Weir.	Maintained by State.
11	Do	W. Levee Sacramento River Mile 87.6 to Mile 88.4; Mile 89.2 to Sycamore Slough	Maintained by R.D. No. 730 Completed contracts.
(153) 11	Do	W. Levee Sacramento River Mile 100.6 to Mile 101.4	Maintained by Sacramento River West Side Levee District. Completed contract.
11	Do	W. Levee Feather River except: 3.31 Mi. North from Nicolaus Bridge; 1400 ft. in Yuba City; from Sta.774+80 to Sta. 1188+00 of "Y.C.H.B" Traverse.	Maintained by Maintenance Area No. 3, Levee Dist. Nos. 1 & 9 of Sutter Co. Recl. Dist.No. 777 and State.
(160) (161) (162) (163) 11	Do	E. Levee Sacramento River, Natomas Cut to Feather River	Maintained by Recl.Dist.No.1001.
11	Do	E. Levee Feather River from mouth to Mile 26.5, except from 2.37 miles of Nicolaus Bridge to Bear River	Maintained by R.D. Nos. 1001 and 784.

Accepted  
Items

No.	Date of Letter	Levee Location	Remarks
11 (171) (172)	8 Dec. 1951	Marysville levees from W.P.R.R. at Simmerly Slough E. to Yuba River and from D St. Bridge on Yuba River upstream to Valley Meat Co.	Maintained by Marysville Levee Commission.
11 (173) (174)	Do	N. Levee Simmerly Slough from W.P.R.R. to S.P.R.R. and E. Levee Feather River from Simmerly Slough upstream 4.8 miles	Maintained by R.D. No. 10 Completed contract.
11 (175)	Do	N. Levee Yuba River from back levee of Marysville upstream 1.8 miles	Maintained by Marysville Levee Commission.
11 (176)	Do	S. Levee Yuba River from S.N.R.R. to S.P.R.R.	Maintained by R.D. No. 784.
11 (177)	Do	N. Levee Bear River from Feather River to W.P.R.R. Interceptor	Maintained by R.D. No. 784.
11 (178)	Do	E. Levee R.D. 784 ( W. Levee W.P.R.R. Interceptor) Bear River to intersection with W.P.R.R. in S $\frac{1}{2}$ Sec. 17, T. 14 N., R. 4 E.	Maintained by R.D. No. 784.
11 (179) (180)	Do	S. Levee American River from 16th St. Bridge to Mayhew except from S.N.R.R. to a point 800 ft. E. of W.P.R.R.	Maintained by American River Flood Control District.
11 (181) (182) (183) (184) (185) (186) (187) (188)	Do	W. Levee Yolo By-pass from Sacramento River to Putah Creek except from N. line Cache Cr. Settling Basin to S.N.R.R. & from old Willow Slough pipes south 1.48 mi.*	Maintained by State and R. D. #2035.
11 (190)	Do	N.&S. levees Willow Slough Interceptor*	Maintained by State and R. D. No. 2035.
11 (191) (192)	Do	N.&S. levees of Putah Creek	Maintained by State.
11 (197) (198)	Do	N.&S. levees Sycamore Slough from Sacramento River to Knights Landing Outfall Gates	Maintained by R.D. 730 and Sacramento River West Side Levee District.

(21)

Accepted  
Items

No.	Date of Letter	Levee Location	Remarks
-----	----------------	----------------	---------

12 8 Dec. 1951

Five reaches of Ryer Island levee along Miner Slough as follows:

a. Junction Miner and Sutter Sloughs westerly 5000 feet.

b. From State Highway Bridge West. 3035 ft.

c. Spec. 1473, Sta. 53+00 to 64+00 about one mi. No. of Ryde Road. *Mile 29.4 to 29.6*

d. Spec. 1473, Sta. 0+00 to 12+00 being 600 ft. each side of Ryde Road. *Mile 30.4 to 30.6*

e. Ryer Island cut-off levee beginning at east bank of Cache Slough and extending upstream 3,300 feet at junction of Cache and Miner Sloughs.

Maintained by R.D. No. 501. All are completed separate contracts.

Covered by letter dated 16 Nov. 1951

321 → (32) (79A) ✓

303 Covered by letter dated

(53A) ✓

304 17 Nov. 1951

(54A) ✓

(23) (50)

\*No waterway banks contiguous to these levees.

C. de ARRIETA

REGISTERED MAIL  
Receipt Receipt  
Requested

Letter No. 12

12

SPKKA 824,3(Sac. Riv. F.C.P.)

8 DEC 1951

The Reclamation Board  
State of California  
1100 "O" Street  
Sacramento 16, California

Gentlemen:

Reference is made to your letter of 22 June 1951 acknowledging that certain reaches of the levees of the Sacramento River Flood Control Project and the waterway bank contiguous to said levee reaches meet the requirements of the project as authorized prior to the Flood Control Act of 1944.

The levee reaches in question are located as follows:

140. a. Northerly levee of the American River from Jibboom Street Bridge to Sacramento River. 118.2 (?)

b. Easterly levee of the Sacramento River.

Reach 15 141. (1) American River to Natones Out. 60.25 to 79.0 124

Reach No. 11 142. (2) At Moulton Weir. (man 2) 154

143. (3) Mile 158.5 (North End Moulton Weir) to Mile 164.4 (Princeton Ferry). (man 2) ? 134

144. (4) Mile 168.5 to Mile 168.9 (at Dutch City). (man 2) ? 138

c. Westerly levee of the Sacramento River.

145. (1) Mile 59.9 to Mile 60.75. 116

146. (2) Mile 61.8 to Mile 62.65 (at Drye Bend) 116

62.65

Accepted by letter dated 9 March 1953

Letter 12 Items 140 to 198

12

Letter No. 12

12

c. Westerly levee of the Sacramento River, (cont'd)

- ✓ 147. (8) Mile 62.65 to Mile 63.1 (South End Sacramento Weir). 116
- ✓ 148. (4) At Sacramento Weir. 158
- ✓ 149. (5) Mile 63.5 (North End Sacramento Weir) to Mile 67.11. 122
- ✓ 150. (6) Mile 68.42 to Mile 70.9. 122
- ✓ 151. (7) Mile 76.5 to Mile 81.7 (East End Fremont Weir). 123
- ✓ 152. (8) Along Fremont Weir. 157
- ✓ 153. (9) Mile 84.0 (West End Fremont Weir) to Mile 85.3. 128
- ✓ 154. (10) Mile 85.5 to Mile 85.9. 128
- ✓ 155. (11) Mile 87.6 to Mile 88.4. 128
- ✓ 156. (12) Mile 89.2 to Mile 89.8 (Knights Landing Highway Bridge). 128
- ✓ 157. (13) Mile <sup>89.2</sup> 89.8 (Knights Landing Highway Bridge) to Sycamore Slough. 89.9 128
- ✓ 158. (14) Mile <sup>100.6</sup> 100.6 to Mile 101.4. 128
- ✓ 159. (15) Mile 110.9 to Mile 111.2. 128

Reach No. 5

Reach No. 4

d. Westerly levee of the Feather River.

- Reach 39 ✓ 160. (1) Sutter Bypass to Nicolaus Bridge. 143
- ✓ 161. (2) From a point 3.51 miles northerly from Nicolaus Bridge to the Fifth Street Bridge between Marysville and Yuba City. 143, 144
- Reach 38 ✓ 162. (3) From a point 1,400 feet northerly from the Fifth Street Bridge between Marysville and Yuba City to Station 774+00 "Y.C.N.B." Traverse. 144
- ✓ 163. (4) From a point east of Station 1188+00 "Y.C.N.B." Traverse to high ground just northerly from the Western Canal Headgate. 144

Reach 42 ✓ 164. a. Easterly levee of the Sacramento River from Natomas Cut to Feather River. 141.1

12

Letter No. 12

12

f. Easterly levee of the Feather River.

- Reach 42 ✓ 165. (1) Sacramento River to a point 2.37 miles southerly from Nicolaus Bridge. 141 Pt 1
- Reach 41 ✓ 166. (2) Bear River to Mile 14.4. } 145
- ✓ 167. (3) Mile 14.4 to Mile 14.7.
- ✓ 168. (4) Mile 14.7 to Mile 21.5.
- ✓ 169. (5) Mile 21.5 to Mile 22.75.
- ✓ 170. (6) Mile 22.75 to Mile 26.5 (Point where levee and S.M.R.R. meet). 145

g. Levees protecting the City of Marysville. All 147

- Reach 43 ✓ 171. (1) From the W.P.R.R. at Simerly Slough easterly to the Yuba River.
- ✓ 172. (2) Along the Yuba River from the "D" Street Bridge to the back levee near the Valley Meat Company.

h. Levees protecting Reclamation District No. 10.

- Reach No. 40 ✓ 173. (1) Northerly levee of Simerly Slough from the W.P.R.R. to the S.P.R.R. 151
- ✓ 174. (2) Easterly levee of the Feather River from Simerly Slough to a point 4.3 miles northerly from Simerly Slough. 151

Reach 46 ✓ 175. i. Northerly levee of the Yuba River from the back levee of the City of Marysville to a point 1.3 miles easterly from said back levee. 147

Reach 47 ✓ 176. j. Southerly levee of the Yuba River from Feather River (i.e. S.M.R.R.) easterly to the S.P.R.R. Main Line. 147

45 ✓ 177. k. Northerly levee of Bear River from Feather River easterly to the W. P.R.R. Interceptor. 145

45 ✓ 178. l. Westerly levee of the W.P.R.R. Interceptor and Clark Slough Interceptor (i.e. back levee of Reclamation District No. 784) from Bear River to the southerly end of the Clark Slough Interceptor. 145

12

SPIKA 824.3 (Sac. Riv. P.C.P.)  
The Reclamation Board

Letter No. 12

12

m. Southerly levee of the American River.

Reach  
No. 25 ✓

- ✓ 179. (1) Sixteenth Street Bridge to the S.N.R.R. 118.1
- ✓ 180. (2) From a point 800 feet easterly from the W.P.R.R. to Mayhew Station. 118.1

n. Westerly levee of the Yolo Bypass.

- ✓ 181. (1) Sacramento River to Knights Landing Ridge Cut. 127
- ✓ 182. (2) Knights Landing Ridge Cut to the northeast corner of the Cache Creek Settling Basin. 126
- 28 ✓ 183. (3) S.N.R.R. Woodland Branch to a point 1.6 miles southerly from said railroad. 121
- 28 ✓ 184. (4) From a point 1.6 miles southerly from the S.N.R.R. Woodland Branch to the Willow Slough Pipes. 121
- 28 ✓ 185. (5) From a point 1.48 miles southerly from the Willow Slough Pipes to a point 1.9 miles southerly from said pipes. 121
- 28 ✓ 186. (6) From a point 1.9 miles southerly from the Willow Slough Pipes to the Willow Slough Interceptor. 121
- 28 ✓ 187. (7) From the Willow Slough Interceptor to Highway U.S. 40. 120
- ✓ 24 ✓ 188. (8) From Highway U.S. 40 to Putah Creek. 119

27 ✓ 189 o. Easterly and Westerly training levees of Cache Creek Settling Basin from Cache Creek southerly. 126

28 ✓ 190 p. Northerly and Southerly levees of the Willow Slough Interceptor from the S.P.R.R. to the Yolo Bypass. 120

29 ✓ 191 q. Northerly levee of Putah Creek from Yolo Bypass westerly to high ground. 119

✓ 192 r. Southerly levee of Putah Creek from high ground on Dixon Ridge westerly to high ground. 119

s. Southerly levee of Knights Landing Ridge Cut. 127

- 26 ✓ 193 (1) From Yolo Bypass westerly 600 feet. Also covered under Unit 96-A
- 26 ✓ 194 (2) { From a point 2,500 feet westerly from Yolo Bypass to a point 2,900 feet westerly from Yolo Bypass. 127  
Also covered under 96-A

12

SPKKA 824.3(Sac.Riv.F.C.P.)  
The Reclamation Board

Letter No. 12

12

s. Southerly levee of Knights Landing Ridge Cut. (cont'd)

- 26 ✓ 195 (S) { From a point 3,300 feet westerly from Yolo Bypass to a point 7,100 feet westerly from Yolo Bypass. 127  
Also covered under Unit No. 96-A
- 35 ✓ 196 t. That portion of the back or westerly levee of Hastings Tract which runs east and west along the County Road for a distance of approximately one mile. 107
- ✓ 197 u. Northerly levee of Sycamore Slough from Sacramento River to Knights Landing Outfall Gates. 130
- ✓ 198 v. Southerly levee of Sycamore Slough from Sacramento River to Knights Landing Outfall Gates. 132

The records of this office show that your Board has accepted the levees and/or works covered by Items b.(1), b.(2), b.(3), c.(2), c.(4), c.(8), c.(11), c.(12), c.(14), d.(1), d.(3), d.(4), f.(3), f.(5), g., h., i., l., m., n.(1), n.(2), n.(3), n.(6), n.(7), n.(8), o., p., q., r. and s.(1) above, as complete. Accordingly the waterway bank contiguous to said Items is hereby transferred to the State of California for maintenance and operation.

The levee covered by Items a., b.(4), c.(1), c.(3), c.(5), c.(6), c.(7), c.(9), c.(10), c.(13), c.(15), d.(2), e., f.(1), f.(2), f.(4), f.(6), j., k., n.(4), n.(5), s.(2), s.(3), t., u. and v., above, although complete has not been formally transferred as contemplated by the Project documents. Accordingly the levee covered by said Items, together with the waterway bank contiguous thereto, is hereby transferred to the State of California for maintenance and operation.

The maintenance work required under the provisions of the Sacramento River Flood Control Project shall be performed in accordance with existing Flood Control Regulations which have been prescribed by the Secretary of the Army pursuant to Section 3 of the Act of Congress approved 22 June 1936, as amended and supplemented. As provided under paragraph 208.10(10) of these regulations, a maintenance manual covering these works is in process of preparation and will be furnished your Board upon completion.

A copy of this letter is being transmitted to the State Engineer.

FOR THE DISTRICT ENGINEER:

Sincerely yours,

Copy Furnished:  
Office, Chief of Engrs.  
So. Pac. Div. Engr.  
State Engineer  
Engr. Div. (2)  
C. de Arrieta

H. R. Reifsnnyder  
Lt. Colonel, Corps of Engineers  
Executive Officer

12

REGISTERED MAIL  
Return Receipt  
Requested

Letter No. 3

3

SPKHA 924.5(Sac.Riv. F.C.P.)

4 DEC 1951

Refer. Recl. Board letter dated 2 April 1952.

The Board accepted Item No. 9 on 18 Dec. 1951 with the condition that the Federal Gov. complete the enlargement of the levee with no obligation for the State to maintain the banks along the Sacramento Deep Water Channel.

The Board also accepted Items No. 10 and 11 on 18 Dec. 1951, without reservations other than an statement indicating that flatter slopes on this levees are not required.

The Reclamation Board  
State of California  
1100 "O" Street  
Sacramento 14, California

Item No. 9 was previously accepted on 6 June 1951,

Gentlemen:

Reference is made to your letter of 18 May 1951 acknowledging that certain reaches of the levees of the Sacramento River Flood Control Project and the waterway bank contiguous to said levee reaches meet the requirements of the project as authorized prior to the Flood Control Act of 1944.

The levee reaches in question are located as follows:

- Reach No. 32 9 a. Westerly levee of the Yolo Bypass from Fremont Weir to Miner Slough. 127, 126, 121, 120, 119, 109, 107, 105 accepted 6-6-51
- Reach No. 32 10 b. Northerly levee of Sacramento Bypass. 122
- Reach No. 33 11 c. Southerly levee of Sacramento Bypass. 116

The records of this office show that on 6 June 1951 your Board accepted the levee covered by Item a, above as complete. Accordingly, the waterway bank contiguous to said Item a, is hereby transferred to the State of California for maintenance and operation.

The levee covered by Items b, and c, above although complete has not been formally transferred as contemplated by the Project documents. Accordingly, the levee covered by said Items b, and c., together with the waterway bank contiguous thereto, is hereby transferred to the State of California for maintenance and operation.

The maintenance work required under the provisions of the Sacramento River Flood Control Project shall be performed in accordance with existing

Reaches 32 and 33  
Items 9 to 11

3

C. de ARRIETA

Mile 0 to 50  
" 50 to 106

Letter No. 3

3

SPEEA 824.3(Sac.Riv.F.C.P.)  
The Reclamation Board

Flood Control Regulations which have been prescribed by the Secretary of the Army pursuant to Section 3 of the Act of Congress approved 22 June 1936, as amended and supplemented. As provided under paragraph 206.10(10) of these regulations, a maintenance manual covering these works is in process of preparation and will be furnished your Board upon completion.

A copy of this letter is being transmitted to the State Engineer.

Sincerely yours,

C. C. Haug  
Colonel, Corps of Engineers  
District Engineer

Copy Furnished:  
Office, Chief of Engrs.  
So. Pac. Div. Engr.  
State Engineer  
Engr. Div. (2)  
D. de Arrieta

3

31 October 1949

The Reclamation Board  
 State of California  
 1100 "O" Street  
 Sacramento, California

Gentlemen:

Construction of the West Levee of the Yolo Bypass from the causeway (Highway 40), southerly for a distance of approximately three miles, has been completed. Also construction of the levees along both banks of Putah Creek from the West Levee of Yolo Bypass upstream 9.4 miles has been completed. Therefore, in accordance with established procedure, these sections of completed levees are hereby transferred to the State of California for maintenance.

This construction forms an integral part of the Sacramento River Flood Control Project. The details and extent of the work are shown on the inclosed drawings.

There is also inclosed a copy of the Flood Control Regulations prescribed by the Secretary of War (now designated the Secretary of the Army), pursuant to the provisions of Section 3 of the Act of Congress approved 22 June 1936, as amended and supplemented, to govern the maintenance and operation of flood control works, of which the levees referred to are a part. In accordance with paragraph 208.10 (10) of said regulations, this office will furnish your Board and local interests at a later date with an operation and maintenance manual to assist in carrying out their obligations established by these regulations.

For the records of this office, acknowledgment of receipt of this letter is requested on or before 30 November 1949.

Copy of this letter, with inclosures, is being transmitted to the State Engineer.

FOR THE DISTRICT ENGINEER:

3 Incls.

Drawing 50-4-2280 (in 2 sheets)  
 " 50-4-2396 (in 16 sheets)  
 Flood Control Regulations

Copy furnished:

State Engineer  
 Public Works Bldg.  
 Sacramento, Calif. (with Incls.)

Sincerely yours,

W. R. McCUTCHEEN  
 Lt. Col., Corps of Engineers  
 Executive Officer

Unit No. 8

119

See L+H  
21 Oct 1949  
same survey.

PERK-AA

19 November 1946

SUBJECT: Maintenance of West Levee, Yolo By-Pass,  
from Causeway three miles southerly.

The Reclamation Board  
1100 "O" Street  
Sacramento, California

Gentlemen:

Construction has been completed of the west levee of the Yolo By-Pass from the causeway (Highway 50) southerly for a distance of approximately three miles. Therefore, in accordance with established procedure, this portion of completed levee is hereby transferred to the State of California for maintenance.

This construction forms an integral part of the Sacramento River Flood Control Project. The details and extent of the work are shown on inclosed drawing No. 50-4-2280 in two sheets, entitled "Levee Construction, West Levee Yolo By-Pass, from Causeway Southerly 3.0 Miles."

There is also inclosed a copy of Flood Control Regulations prescribed by the Secretary of War pursuant to the provisions of Section 3 of the Act of Congress approved 22 June 1936, as amended and supplemented, to govern the maintenance and operation of flood control works, of which the levee referred to above is a part. In accordance with paragraph 208.10(10) of said regulations, at a later date this office will furnish your Board and local interests with an Operation and Maintenance Manual to assist in carrying out their obligation established by these regulations.

For the records of this office, acknowledgement of receipt of this letter is requested on or before 23 December 1946.

Copy of this letter, with inclosures, is being transmitted to the State Engineer.

2 Incls.  
Dwg. No. 50-4-2280 (in 2 sheets)  
Flood Control Regulations

Manual No. 8

Copy, with inclosures, furnished:

Mr. Edward Hyatt, State Engineer,  
Sacramento, Calif.

cc: CdeA(w/d.)

Unit No. 8 119

EXHIBIT G

SUGGESTED SEMI-ANNUAL REPORT FORM

(1 May 19\_\_ )  
(1 Nov 19\_\_ )

TO: The District Engineer  
Sacramento District  
Corps of Engineers  
1209 - 8th Street  
Sacramento, California

Dear Sir:

The semi annual report for the period (1 May 19\_\_ to 31 October 19\_\_ ) (1 November 19\_\_ to 30 April 19\_\_ ) on the Putah Creek channel and levees and the west levee of the Yolo Bypass, Unit No. 119 of the Sacramento River Flood Control Project, is as follows:

a. The physical condition of the protective works is indicated by the Inspector's Reports, copies of which are inclosed, and may be summarized as follows:

(Superintendent's summary of conditions)

It is our intention to perform the following maintenance work in order to repair or correct the conditions indicated:

(Outline the anticipated maintenance operations for the following 6 months.)

b. During this report period, major high water periods (water level at 25.0 on the recording gage 6 miles west of Winters) occurred on the following dates:

<u>Dates</u>	<u>Maximum Elevation</u>
_____	_____
_____	_____
_____	_____

Comments on the behavior of the protective works during such high water periods are as follows:

(Superintendent's log of flood observations)

During the high water stages when the water level reached a height of \_\_\_\_\_ on the gage or in excess thereof (dates) \_\_\_\_\_, it was necessary to organize and carry out flood operations as follows:

(See Maintenance Manual \_\_\_\_\_)

c. The inspections have indicated (no) or (the following) encroachments or trespasses upon the project right-of-way

Action or prosecution for abatement of these encroachments or trespasses is summarized as follows: (or state none has been necessary).

d. (No) ( ) permits have been issued for (the following) improvements or construction within the project right-of-way.

Executed copies of the permit documents issued are transmitted for your files.

e. The status of maintenance measures, indicated in the previous semiannual report as being required or as suggested by the representatives of the District Engineer, is as follows:

(Statement of maintenance operations, item by item with percent completion)

f. The fiscal statement of the Superintendent's operations for the current report period is as follows:

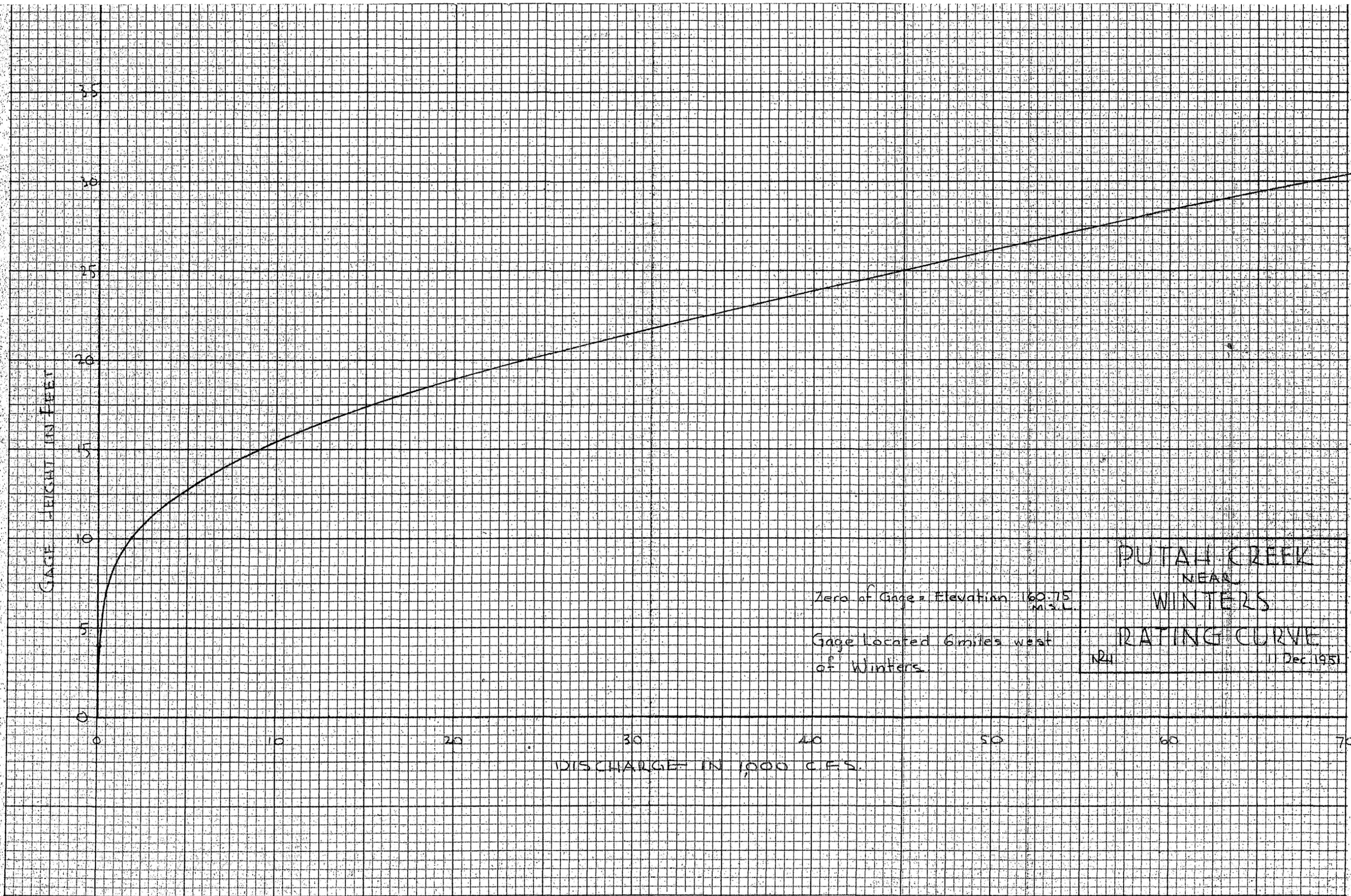
	<u>Labor</u>	<u>Material</u>	<u>Equipment</u>	<u>Overhead</u>	<u>Total</u>
1. Inspection					
2. Maintenance					
3. Flood fighting operations					
TOTAL					

Respectfully submitted,

Superintendent of Works

EXHIBIT H

PUTAH CREEK RATING CURVE



Zero of Gage = Elevation 160.15  
M.S.L.

Gage located 6 miles west  
of Winters

PUTAH CREEK  
NEAR  
WINTERS

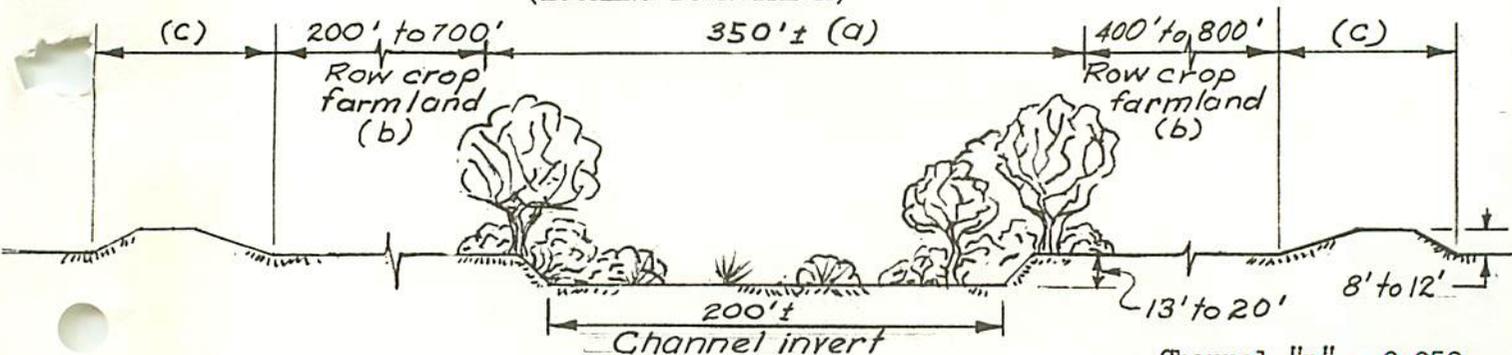
RATING CURVE  
RD4  
Dec 1951



Channel  
"n" = 0.050

Overbank  
"n" = 0.040

PHOTO - EXISTING VEGETATION  
(LOOKING DOWNSTREAM)



Channel "n" = 0.050  
Overbank "n" = 0.040

TYPICAL SECTION - SEMI-CONTROLLED GROWTH  
Not to scale

- a. Existing channel invert to be cleared of large trees and willow clumps at about 5- to 10-year intervals. No clearing on channel slopes or 15 feet waterward from toe of channel.
- b. The overbanks have been used for farming for a number of years, and this usage is expected to continue. No clearing will be required.
- c. Levees to be cleared annually or as required to keep free of vegetal growth.

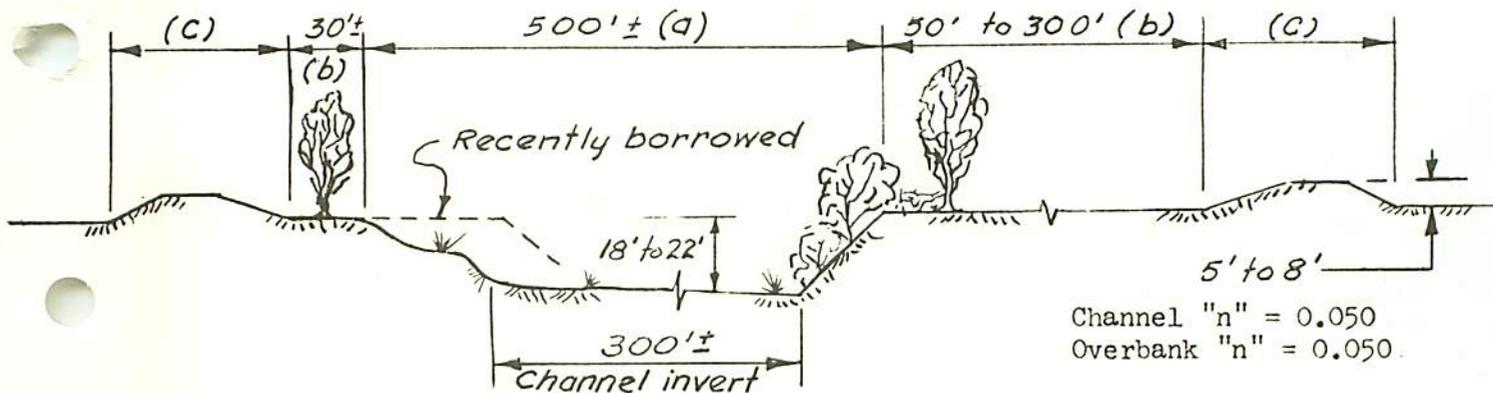
YOLO BYPASS TO 0.6 MILES DOWNSTREAM DAVIS ROAD (Centerline 320+00)



Channel  
"n" = .030

Overbank  
"n" = 0.040

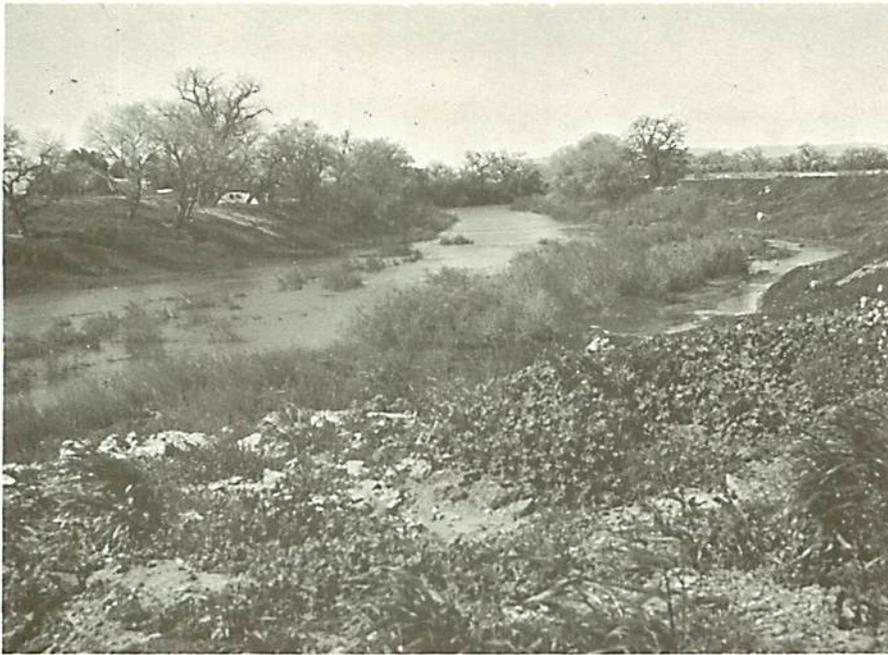
PHOTO - EXISTING VEGETATION  
(LOOKING DOWNSTREAM)



TYPICAL SECTION - SEMI-CONTROLLED GROWTH  
Not to scale

- a. Existing channel invert to be cleared of large trees and willow clumps at about 5- to 10-year intervals. No clearing on channel slopes or 15 feet waterward from toe of channel.
- b. Some tree growth to be allowed on berms. Low limbs and underbrush to be removed.
- c. Levees to be cleared annually or as required to keep free of vegetal growth.

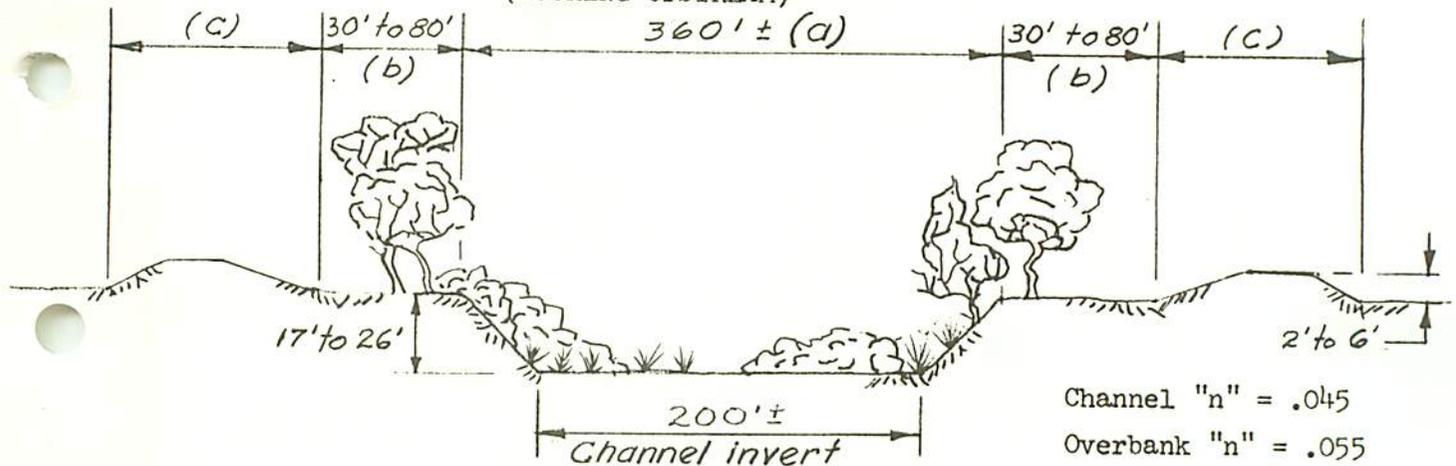
0.6 MILES DOWNSTREAM FROM DAVIS ROAD TO I.S. 80 (Centerline 425+00)



Channel  
 "n" = .045

Overbank  
 "n" = .055

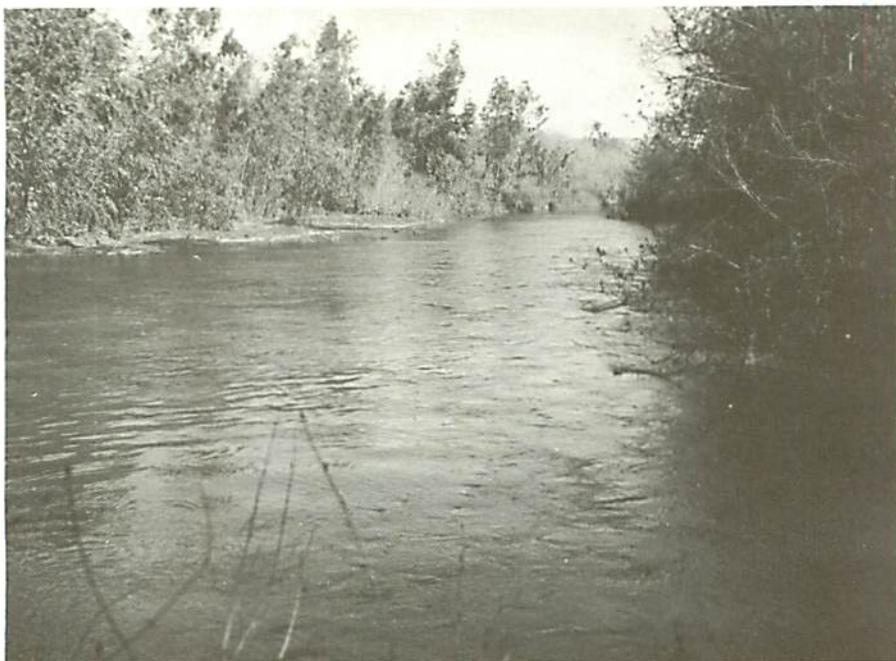
PHOTO - EXISTING VEGETATION  
 (LOOKING UPSTREAM)



TYPICAL SECTION - SEMI-CONTROLLED GROWTH  
 Not to scale

- a. Existing channel invert to be cleared of large trees and willow clumps at about 5- to 10-year intervals. No clearing on channel slopes or 15 feet waterward from toe of channel.
- b. Some tree growth to be allowed on berms. Low limbs and underbrush to be removed.
- c. Levees to be cleared annually or as required to keep free of vegetal growth.

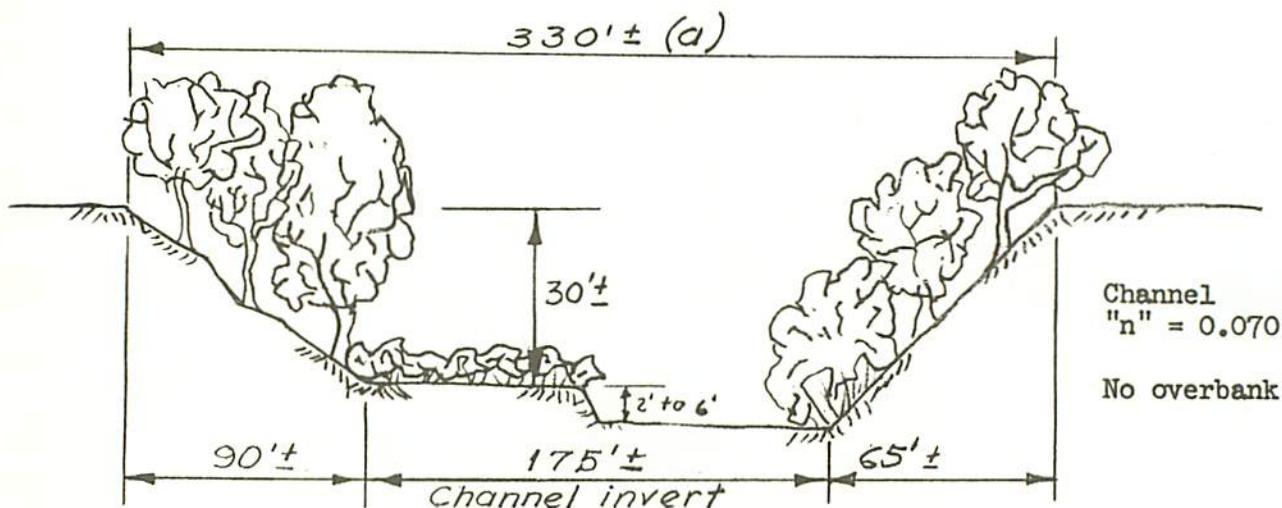
I.S. 80 (Centerline 425+00) TO END OF PROJECT LEVEES (Centerline 465+00)



Channel  
 "n" = 0.050

No overbank

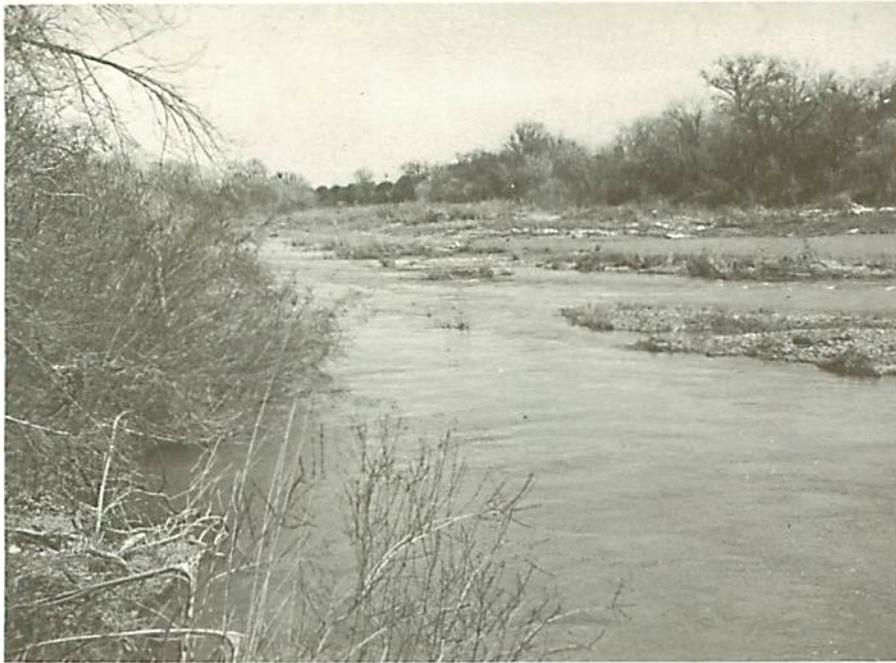
PHOTO - EXISTING VEGETATION  
 (LOOKING DOWNSTREAM)



TYPICAL SECTION - SEMI-CONTROLLED GROWTH  
 Not to scale

- a. Existing channel invert to be cleared of large trees and willow clumps at about 5- to 10-year intervals. No clearing on channel slopes or 15 feet waterward from toe of channel.

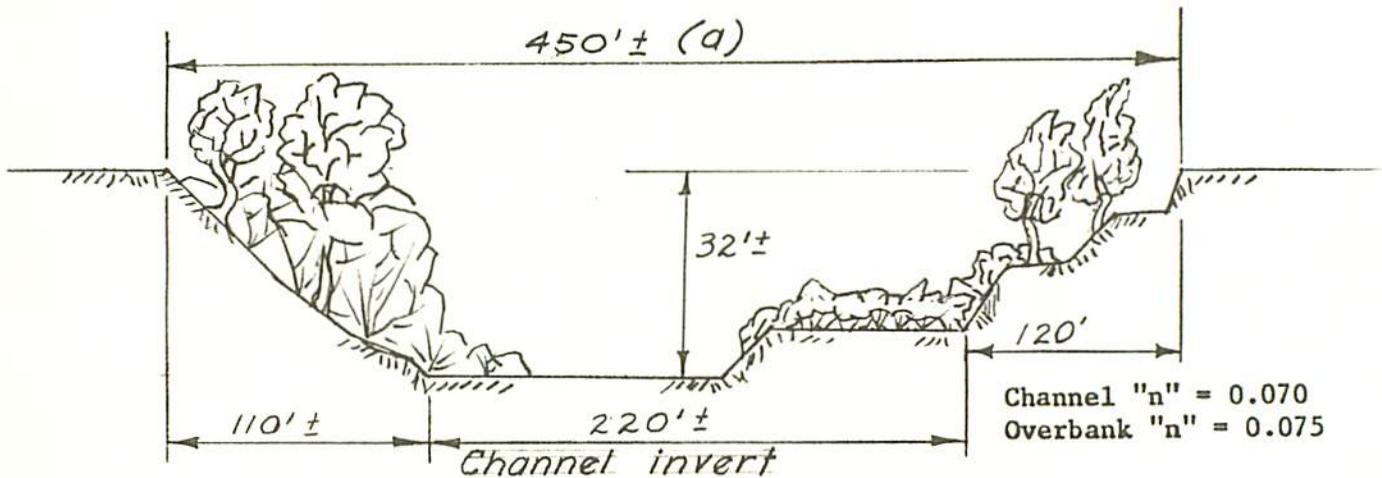
END OF PROJECT LEVEES (Centerline 465+00) TO STEVENS BRIDGE (Centerline 662+00)



Channel  
"n" = 0.050

Overbank  
"n" = 0.060

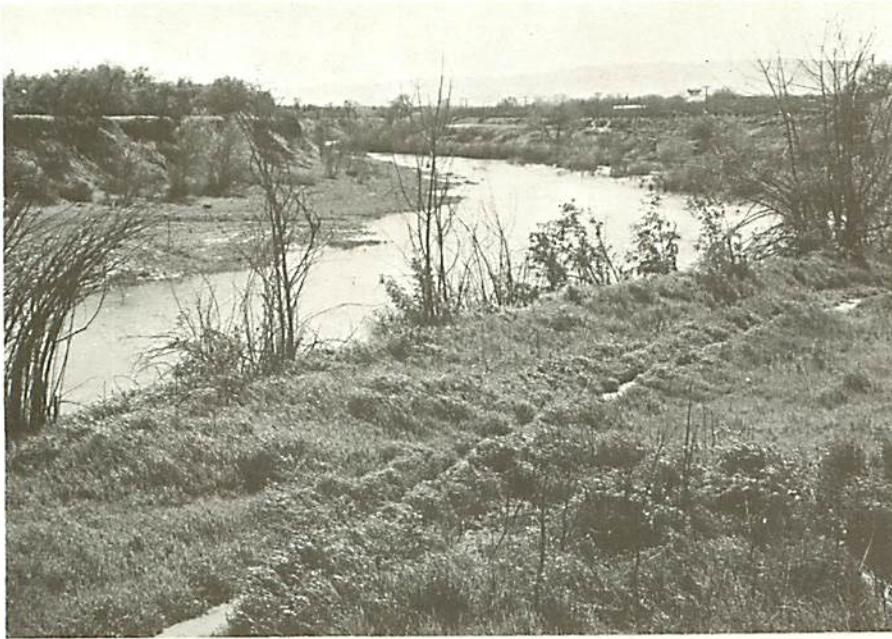
PHOTO - EXISTING VEGETATION  
(LOOKING DOWNSTREAM)



TYPICAL SECTION - SEMI-CONTROLLED GROWTH  
Not to scale

- a. Existing channel invert to be cleared of large trees and willow clumps at about 5- to 10-year intervals. No clearing on channel slopes or 15 feet waterward from toe of channel.

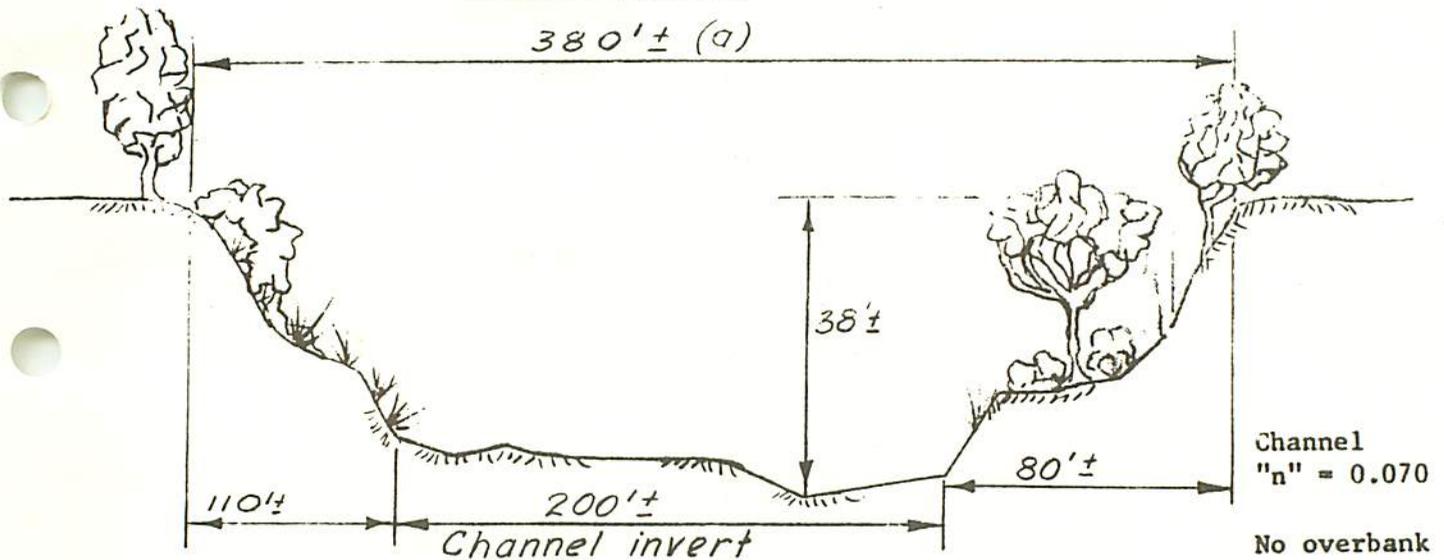
STEVENSON BRIDGE (Centerline 662+00) TO CENTERLINE 850+00



Channel  
 "n" = 0.045

No overbank

PHOTO - EXISTING VEGETATION  
(LOOKING UPSTREAM)



TYPICAL SECTION - SEMI-CONTROLLED GROWTH  
 Not to scale

- a. Existing channel invert to be cleared of large trees and willow clumps at about 5- to 10-year intervals. No clearing on channel slopes or 15 feet waterward from toe of channel.

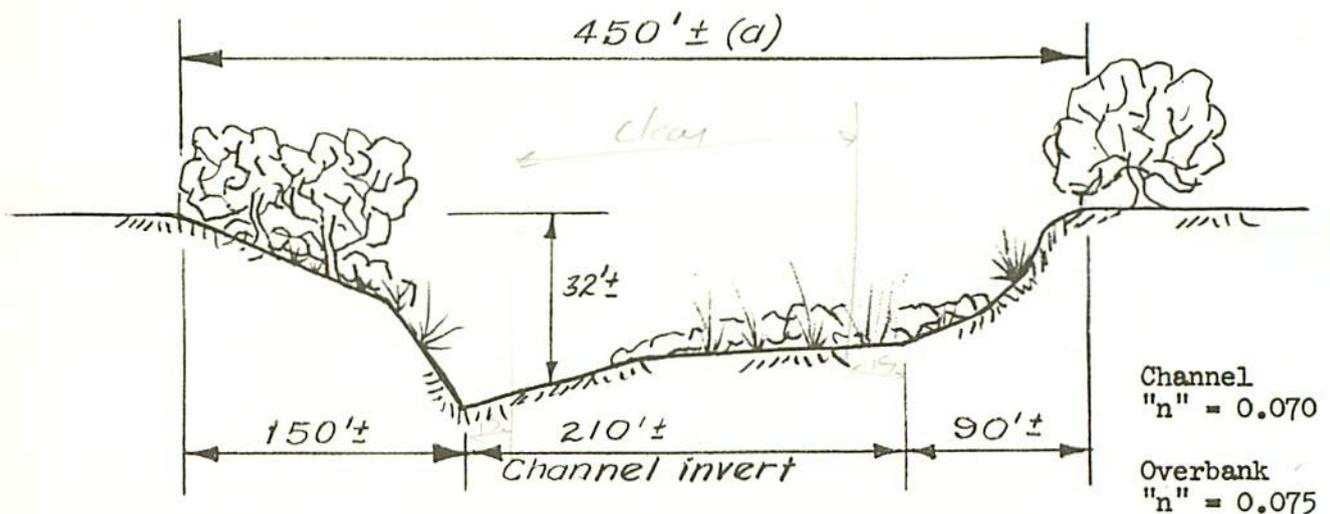
CENTERLINE 850+00 TO CENTERLINE 925+00



Channel  
"n" = 0.040

Overbank  
"n" = 0.050

PHOTO - EXISTING VEGETATION  
(LOOKING DOWNSTREAM)



TYPICAL SECTION - SEMI-CONTROLLED GROWTH  
Not to scale

- a. Existing channel invert to be cleared of large trees and willow clumps at about 5- to 10-year intervals. No clearing on channel slopes or 15 feet waterward from toe of channel.

CENTERLINE 925+00 TO WINTERS (Centerline 1030+00)

925  
1030 00 ≈ 2 mi