

---

**SUPPLEMENT TO STANDARD  
OPERATION AND MAINTENANCE  
MANUAL**

**SACRAMENTO RIVER  
FLOOD CONTROL PROJECT**

**UNIT NO. 139**

**WEST LEVEE OF SACRAMENTO RIVER**

**FROM**

**NORTH BOUNDARY OF LEVEE DISTRICT NO. 2**

**TO**

**NORTH END OF PRINCETON WAREHOUSE**



**SACRAMENTO DISTRICT**

**CORPS OF ENGINEERS**

**U. S. ARMY**

**SACRAMENTO, CALIFORNIA**

---

CORPS OF ENGINEERS

U. S. ARMY

---

SUPPLEMENT TO STANDARD  
OPERATION AND MAINTENANCE MANUAL  
SACRAMENTO RIVER FLOOD CONTROL PROJECT

UNIT NO. 139

WEST LEVEE OF SACRAMENTO RIVER  
FROM  
NORTH BOUNDARY OF LEVEE DISTRICT NO. 2  
TO  
NORTH END OF PRINCETON WAREHOUSE

Sacramento District  
Corps of Engineers  
U. S. Army  
May 1955

---

**SUPPLEMENT TO STANDARD  
OPERATION AND MAINTENANCE MANUAL  
SACRAMENTO RIVER FLOOD CONTROL PROJECT**

UNIT NO. 139

WEST LEVEE OF SACRAMENTO RIVER  
FROM  
NORTH BOUNDARY OF LEVEE DISTRICT NO. 2  
TO  
NORTH END OF PRINCETON WAREHOUSE

LOCATION	ADDITION OR REVISION	DATE
1-04 c.	Add contract no. 70-C-0008	Mar 1971
Exhibit B	Add drawing no. 50-4-4310	Mar 1971
Exhibit F	Add copy of letter of acceptance dated 26 Jan 1971	Mar 1971
1-04	Add subparagraph d.	Nov 1983
2-05	Add environment protection	Nov 1983
Exhibit B	Add drawing no. 50-4-5438	Nov 1993
Exhibit F	Add copy of letter of transfer dated 10 Dec 1981	Nov 1993
Exhibit F	Add copy of letter of transfer dated 3 Dec 1951	27 Dec 2010
Exhibit F	Add copy of letter of acceptance dated 2 Apr 1952	27 Dec 2010
Exhibit F	Add copy of letter of transfer dated 22 Jul 1952	27 Dec 2010
1-04	Add subparagraph e	2 Feb 2011
Exhibit F	Add copy of letter of transfer dated 18 Jan 1971	2 Feb 2011
Exhibit F	Add copy of letter of acceptance dated 31 Dec 1981	8 Mar 2011

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 . . . . .	1
1-04.	Construction Data and Contractor. . . . .	2
1-05.	Flood Flows . . . . .	2
1-06.	Assurances Provided by Local Interests. . . . .	2
1-07.	Acceptance by State Reclamation Board . . . . .	2
1-08.	Superintendent. . . . .	2

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

2-01.	Levees . . . . .	3
2-02.	Drainage and Irrigation Structures . . . . .	3
2-03.	Channel. . . . .	4
2-04.	Miscellaneous Facilities . . . . .	5
2-05.	Environment Protection . . . . .	5 *

SECTION III - REPAIR OF DAMAGE TO PROJECT WORKS AND  
METHODS OF COMBATING FLOOD CONDITIONS

3-01.	Repair of Damage . . . . .	6
3-02.	Applicable Methods of Combating Floods . . . . .	6

EXHIBITS

<u>Exhibit</u>	<u>Description</u>
A	Flood Control Regulations. . . . . Unattached (Contained in Standard Manual)
A - 1	Location Drawing . . . . . 1 Sheet
B	"As Constructed" Drawings. . . . . Unattached
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)
E	Check Lists - Levees, Channels and Structures Sheets 1 thru 7
F	Letter of Acceptance by State Reclamation Board . . . . . 2 Sheets
G	Semi-Annual Report Form . . . . . 2 Sheets

SUPPLEMENT TO STANDARD  
OPERATION AND MAINTENANCE  
MANUAL

SACRAMENTO RIVER FLOOD CONTROL PROJECT  
UNIT NO. 139

WEST LEVEE OF SACRAMENTO RIVER  
FROM  
NORTH BOUNDARY OF LEVEE DISTRICT NO. 2  
TO  
NORTH END OF PRINCETON WAREHOUSE

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 west levee of the Sacramento River from the north boundary of Levee District No. 2 to the north end of the Princeton Warehouse. The location by river mileage is from about mile 170.5 to mile 164.4 or as shown on the drawings of Exhibit B. The levee within this unit extends from station 281+25 downstream to station 7+68.6. In general, the area lies between the towns of Glenn and Princeton, all in Levee District No. 2, Glenn County, California. Location of the completed unit covered by this manual is shown on Exhibit A-1.

1-02. Protection Provided. The levee of Unit No. 139 provides direct protection to adjacent agricultural land and the town of Princeton against flood waters of the Sacramento River and is an essential feature of the Sacramento River Flood Control Project. The grade of the adopted flood plane profile in the Sacramento River varies from elevation 100.1 at the north boundary of Levee District No. 2 to elevation 93.6 at the north end of Princeton Warehouse (Elevations are referred to Corps of Engineers datum). The levee grade is three feet or more above the adopted design flood plane and the project design flood capacity is 160,000 cubic feet per second within this unit.

1-03. Project Works. The project works covered by this manual includes the west levee of the Sacramento River from the north boundary of Levee District No. 2 southerly (downstream) about 5.2 miles to the north end of Princeton Warehouse. The levee within this unit, as

originally built by local interests, has been repaired and re-constructed by the Corps of Engineers to adopted grade and section.

1-04. Construction Data and Contractor. Unit No. 139 of the flood control works described in this manual forms an integral part of the Sacramento River Flood Control Project. In general, all construction features are based on standard plans and specifications, details being fully covered in the drawings of Exhibit B.

In addition to repair of levee breaks and emergency work, construction required to bring locally built levees to project grade and section was accomplished under the following contracts:

a. Enlargement of the west levee of the Sacramento River from Princeton to Glenn was constructed under Contract No. W-1105-eng-2864 by Frederickson Bros., contractors, and completed on 26 July 1941.

b. Surfacing of levee crown for patrol road purposes within this unit (Part "A") was constructed under Contract No. DA-04-167-eng-838 by Browne and Krull, contractors, during the period from 16 July 1952 to 2 December 1952.

c. Bank protection on the right bank of the Sacramento River at Site Mile 165.1 (Unit No. 16) was accomplished under Contract No. DACW05-70-C-0008 by H. Earl Parker during the period from 25 July 1969 to 14 January 1971. Specification No. 3390. Drawing No. 50-4-4310.

d. Bank sloping, stone protection and selective clearing on the bank of the Sacramento River at Site Mile 164.7 R (a portion of Unit 35) was accomplished under Contract No. DACW05-81-C-0036 by Francis Construction Inc. Construction was completed on 18 November 1982. Specification No. 5472, Drawing No. 50-4-5438.

e. Bank protection and sloping on the right bank of the Sacramento River, Site Mile 165.1 was completed on 26 November 1970 under Contract No. DACW05-70-C-0008. Specification No. 3390, Drawing No. 50-4-4310.

1-05. Flood Flows. For purposes of this manual, the term "flood" or "high water period" shall refer to flows when the water surface reaches or exceeds a reading of 89.0 on the continuous water stage recorder and staff gage located on the left bank of the Sacramento River about 200 feet upstream from the State Highway Bridge at Butte City. (Gage is set on the U.S. Corps of Engineers datum.)

1-06. 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).

1-07. Acceptance by the State Reclamation Board. Responsibility for operating and maintaining the completed works was officially accepted by the Reclamation Board of the State

of California 18 February 1953 and 4 March 1953, as shown on the attached letters of acceptance, Exhibit F.

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

## SECTION II

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

#### 2-01. Levees.

a. Description. The levee described in this manual is located along the westerly side (right bank) of the Sacramento River from the north boundary of Levee District No. 2 to the north end of Princeton Warehouse. Location by river mileage is from about mile 170.5 to mile 164.4. The existing levee of this unit has been re-built to adopted grade and section by new construction. Crushed rock surfacing was applied to the crown of the levee, as indicated on Drawing No. 50-4-2897, sheets 1, 2 and 4 of Exhibit B. Required turnouts and road approaches were also provided. For more complete detail of items included in construction of above mentioned levee, refer to the "As Constructed" drawings of Exhibit B.

b. For pertinent Requirements of the Code of Federal Regulations and other requirements see the following:

- (1) Maintenance - paragraph 4-02 of the Standard Manual.
- (2) Check Lists - Exhibit E of this Supplement Manual.
- (3) Operation - paragraph 4-04 of the Standard Manual.
- (4) Special Instructions - paragraph 4-05 of the Standard Manual.

#### 2-02. Drainage and Irrigation Structures.

a. Description. Drainage and irrigation structures which extend through the levee are located and described as follows:

Location Station	Bank	Size & Kind of Pipe	Other Structure Description of invert	Elevation at pipe
41+47	R	2-36" Steel	Princeton-Codora-Glenn Irrigation	76.7
	R	1-24" Steel	Pumping Plant (flap gates on L.S. to be bolted down at end of irrigation season).	
82+50	R	4" Steel	Slide gate riverside	93.2
95+80	R	12" C.M.P.		82.7
111+17	R	10" Steel		86.4

#### Note(a) - Pertaining to abbreviations:

CMP - Corrugated Metal Pipe  
L.S. - Landside

R - Right Bank (looking downstream)

b. For pertinent Requirements of the Code of Federal Regulations and other requirements see the following:

- (1) Maintenance - paragraph 5-02 of the Standard Manual.
- (2) Check Lists - Exhibit E of this Supplement Manual.
- (3) Operation - paragraph 5-04 of the Standard Manual.
- (4) Additional Requirements - paragraph 5-05 of the Standard Manual.
- (5) Safety Requirements - paragraph 5-06 of the Standard Manual.

2-03. Channel.

a. Description. The channel of the Sacramento River within this unit consists of an overflow area about one mile wide that is confined between levees along both banks. This main portion of the Sacramento River from the north boundary of Levee District No. 2 to the north end of Princeton Warehouse, has a project design capacity of 160,000 cubic feet and the levee grade was designed for a freeboard of 3 feet.

Since the channel of the Sacramento River from the north boundary of Levee District No. 2 to the north end of Princeton Warehouse is utilized for navigable purposes, the responsibility of local interests for inspection, maintenance and operation of the channel shall be limited to flood control.

b. For pertinent Requirements of the Code of Federal Regulations and other requirements see the following:

- (1) Maintenance - paragraph 6-02 of the Standard Manual.
- (2) Check Lists - Exhibit E of this Supplement Manual.
- (3) Operation - paragraph 6-04 of the Standard Manual.
- (4) Safety Requirements - paragraph 6-05 of the Standard Manual.

It shall be the duty of the Superintendent to maintain a patrol of the project works during all periods of flood in excess of a reading 89.0 on the gage at Butte City as indicated in paragraph 1-05 of this manual. The Superintendent shall dispatch a message by the most suitable means to the District Engineer whenever the water surface at Butte City reaches the gage reading indicated above. The Superintendent shall cause readings to be taken at said gage at intervals of two to four hours during the period when the water surface is above the flood-flow stage indicated above and record the time of observations. One copy of the readings 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 3-06 of the Standard Manual.

2-04. Miscellaneous Facilities.

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

(1) Bridge and Road Crossing.

(a) County road (Princeton to Butte City) bridge crossing at Butte City. To be maintained by the county.

(2) Miscellaneous Structures. None.

(3) Utility Relocation. None

(4) Hydrographic Facility. Continuous water stage recorder and staff gage located on the left bank of the Sacramento River about 200 feet upstream from State Highway Bridge at Butte City. This gage shall be Maintained by the State Division of Water Resources and U. S. G. S.

b. For pertinent Requirements of the Code of Federal Regulations and other requirements see the following:

- (1) Maintenance - paragraph 7-02 of the Standard Manual.
- (2) Check Lists - paragraph 7-03 of the Standard Manual.
- (3) Operation - paragraph 7-04 of the Standard Manual.

2-05. Environment Protection.

a. Vegetation left during construction on the waterside berm or slope above the bank protection shall not be removed under normal maintenance. Dead trees with wildlife value will be retained except where they are a hazard to existing flood control works. \*

2-04. Miscellaneous Facilities.

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

- (1) Bridge and Road Crossing.
  - (a) County road (Princeton to Butte City) bridge crossing at Butte City. To be maintained by the county.
- (2) Miscellaneous Structures. None.
- (3) Utility Relocation. None
- (4) Hydrographic Facility. Continuous water stage recorder and staff gage located on the left bank of the Sacramento River about 200 feet upstream from State Highway Bridge at Butte City. This gage shall be maintained by the State Division of Water Resources and U. S. G. S.

b. For pertinent Requirements of the Code of Federal Regulations and other requirements see the following:

- (1) Maintenance - paragraph 7-02 of the Standard Manual.
- (2) Check Lists - paragraph 7-03 of the Standard Manual.
- (3) Operation - paragraph 7-04 of the Standard Manual.

### 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.

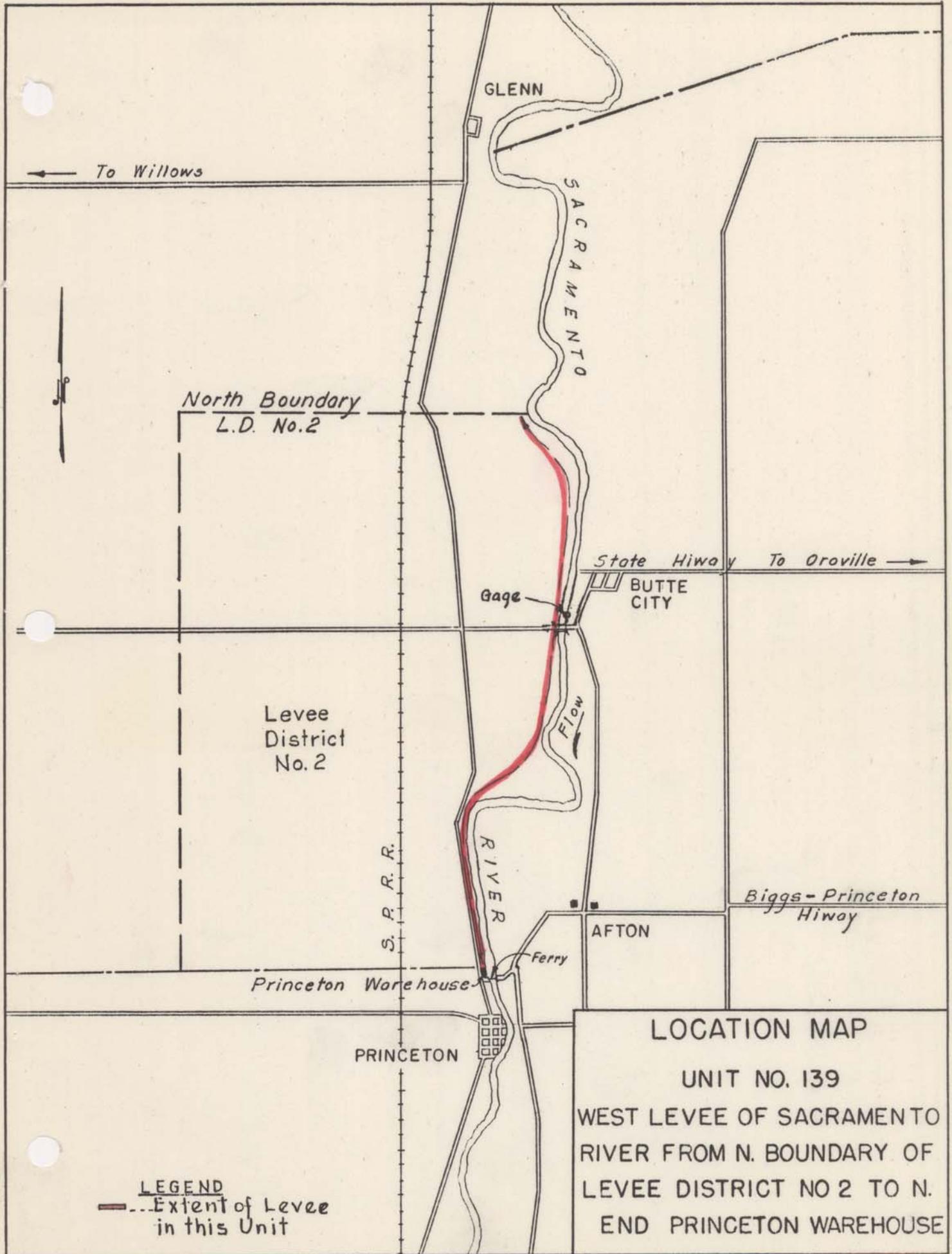
3-02. Applicable Methods of Combating Floods. For applicable methods of combating flood conditions reference is made to Section VIII of the Revised Standard Manual, where the subject is fully covered.

EXHIBIT A

FLOOD CONTROL REGULATIONS

(See Standard Manual)

EXHIBIT A  
Unattached



GLENN

SACRAMENTO

← To Willows

North Boundary  
L.D. No. 2

State Hiway To Oroville →

Gage

BUTTE CITY

Levee District No. 2

Flow

S. P. R. R.

RIVER

Biggs-Princeton Hiway

AFTON

Ferry

Princeton Warehouse

PRINCETON

LOCATION MAP

UNIT NO. 139

WEST LEVEE OF SACRAMENTO RIVER FROM N. BOUNDARY OF LEVEE DISTRICT NO 2 TO N. END PRINCETON WAREHOUSE

LEGEND

—...Extent of Levee in this Unit

EXHIBIT B

"AS CONSTRUCTED"

DRAWINGS

See separate folder for the following drawings:

<u>FILE NO.</u>	<u>TITLE</u>
50-4-1711-2	Proposed Levee Enlargement of the West Levee of the Sacramento River from Princeton to Glenn. Sheets 1 to 4, incl.
50-4-2897	Sacramento River Project - Surface Levee Crown for Patrol Road Purposes. Sheets 1, 2 and 4.

Additional drawings of cross-sections, structures and miscellaneous facilities are available in the Office of the District Engineer.

50-4-4310	Bank Protection, Various Locations Right and Left Banks, Sacramento River between Tisdale Weir and Sacramento, in 26 sheets
50-4-5438	Bank Protection, Various Locations, Right and Left Banks, Sacramento River Mile 110.0 to Mile 184.0, in 33 sheets.

EXHIBIT B  
Unattached

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

CHECK LISTS OF LEVEES,  
CHANNELS AND STRUCTURES

CHECK LIST NO. 2

UNIT NO. 139

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

Inspector \_\_\_\_\_

Date \_\_\_\_\_

Superintendent \_\_\_\_\_

Item	Remarks
(a) Location by Station	
(b) Settlement, sloughing, or loss of grade	
(c) Erosion of levee slope	
(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) 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 earthwork 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 gullyng of the section has occurred.
- Item (c) If sufficient erosion or gullyng 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 any section of roadway or ramps. Indicate any inadequacy in surface drainage system.
- Item (e) Indicate any evidence of seepage through the embankment sections.
- Item (f) Indicate the serviceability of all farm gates across the embankments and roadway, 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

UNIT NO. 139

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 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 or 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, 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

UNIT NO. 139

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

Inspector \_\_\_\_\_

Date \_\_\_\_\_

Superintendent \_\_\_\_\_

(a) Location by Station	611417 82450 111417 95480
(b) Bank	Right " " " "
(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	

Instructions for Completing Sheet 6, Exhibit E  
(To be printed on back of Sheet 6)

- (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 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, 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

EXHIBIT F

**DEPARTMENT OF WATER RESOURCES  
THE RECLAMATION BOARD**

1416 - 9th Street, Room 335-18  
Sacramento, CA 95814  
(916) 445-9454



DEC 31 1981

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

Dear Colonel Kavanaugh:

Reference is made to your letter of December 10, 1981, concerning the transfer to the State of California for operation and maintenance, a portion of the Sacramento River Bank Protection Project, in Unit No. 35.

The flood control work consisted of selective clearing, bank sloping, placement of stone bank protection, and such miscellaneous work as necessary to complete the construction at Sites Miles 164.7, 176.6 and 177.3 Right Bank and 168.4 Left Bank, Sacramento River.

The work was constructed in a workmanlike manner and in conformance with Drawing No. 50-4-5438, Specification No. 5472, and Contract No. DACW 05-81-C-0036, insofar as could be determined visually.

The Reclamation Board at its regular meeting of December 18, 1981, formally accepted from the District Engineer, for operation and maintenance, the completed work on the above-referenced sites.

Sincerely,

*for* ELDON E. RINEHART  
General Manager

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED



*Units 138, 139, 140*

*copy to Nolan  
Valley  
Ejan 21*



C  
O  
P  
Y

DEPARTMENT OF THE ARMY  
SACRAMENTO DISTRICT, CORPS OF ENGINEERS  
650 CAPITOL MALL  
SACRAMENTO, CALIFORNIA 95814

C  
O  
P  
Y

REPLY TO  
ATTENTION OF SPKCO-0

10 December 1981

The Reclamation Board  
State of California  
1416 - 9th Street, Room 335  
Sacramento, CA 95814

Members of the Board:

This is in regard to the joint inspection of 4 December 1981, made for the purpose of transferring a portion of the Sacramento River Bank Protection Project (Unit 35), to the State of California for operation and maintenance.

The flood control work consists of levee bank sloping and placement of stone protection on the Sacramento River right bank at Site Miles 164.7, 176.6 and 177.3 and left bank at site Mile 168.4. The sites described in the inclosure were completed on 4 December 1981 in accordance with Contract No. DACW05-81-C-0036, Specification No. 5472 and Drawing No. 50-4-5438.

The work was performed under general authority of the Flood Control Act of 1960, 86th Congress, 2nd Session (PL 86-645, 14 July 1960), and Section 2304(a), Title 10, and now meets the requirements of the Sacramento River Bank Protection Project. Therefore, said work together with the waterway bank contiguous, thereto, is transferred as of 4 December 1981 to the State of California for operation and maintenance.

This portion of the work will be added by amendment to the Operation and Maintenance Manual, Supplements Nos. 138, 139, and 140 Sacramento River Flood Control Project. Copies will be furnished your Board at a later date.

Sincerely,

1 Incl  
As stated

PAUL F. KAVANAUGH  
Colonel, CE  
District Engineer

Copy furnished: w/incl  
DWR, ATTN: M. Luttrupp and D. Meixner

EXHIBIT F

SUMMARY OF SACRAMENTO RIVER  
BANK PROTECTION PROJECT  
PORTION OF UNIT 35  
SACRAMENTO RIVER

<u>SITE MILE</u>	<u>STATION</u>	<u>STONE PROTECTION L.F.</u>
177.3 right bank	8+00 to 14+50	650
176.6 right bank	42+00 to 67+00	2500
168.4 left bank	0+50 to 8+00	750
164.7 right bank	3+00 to 20+00	1700

C  
O  
P  
Y

THE RECLAMATION BOARD  
STATE OF CALIFORNIA

C  
O  
P  
Y

January 26, 1971

File No: 4130.60.204  
Your Contract 70-C-0008

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

Dear Sir:

Reference is made to your letter of January 15, 1971, concerning transfer to the State of California of a portion of the Sacramento River Bank Protection Project, Unit No. 16, for maintenance and operation. The transferred sites were as follows:

<u>Agency</u>	<u>Site Mile</u>
R.D. No. 1500	111.8 Left Bank 115.5 Left Bank
Levee District No. 2 (Glenn County)	165.1 Right Bank

This work was constructed in conformance with specification No. 3390, Contract No. DACW-70-C-0008, Drawing No. 50-4-4310 and completes the work to be done on Unit No. 16.

The Reclamation Board at its meeting of January 22, 1971, formally accepted the above-referred to work for operation and maintenance.

Sincerely yours,

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

EXHIBIT F

18 January 1971

The Reclamation Board  
State of California  
1416 - 9th Street, Room 1335  
Sacramento, California 95814

Gentlemen:

Reference is made to the joint inspection of 14 January 1971, made for the purpose of transferring a portion of the Sacramento River Bank Protection Project Work (Unit #16), to the State of California for operation and maintenance.

The flood control work consists of bank sloping and placement of stone bank protection on the Sacramento River left bank at Site Miles 115.5 and 111.8, and right bank at Site Mile 165.1. A list covering the completed work is inclosed. The work was completed on 26 November 1970, in accordance with Specification No. 3390, Contract No. SACW05-70-C-0008, Drawing No. 50-4-4310.

The work was performed under the general authority of the Flood Control Act of 1960, 86th Congress, 2nd Session and Section 2304(a), Title 10 and now meets the requirements of the Sacramento River Bank Protection Project. Therefore, said work together with the waterway banks contiguous thereto, is transferred as of 14 January 1971 to the State of California for operation and maintenance.

This portion of the project work will be added by amendment to the Operation and Maintenance Manual, Supplement Nos. ~~130~~ and ~~131~~, Sacramento River Flood Control Project. Copies will be furnished your office at a later date.

Sincerely yours,

JAMES C. DONOVAN  
Colonel, CE  
District Engineer

1 Incl (in dupe)  
as stated

Copy furnished:  
BWR, ATTN: John Wright

WAIT/ffs

COLEMAN

HENSON

DONOVAN

*128-139*  
*Units 128/139*

*[Handwritten signatures and initials]*

*to A. Huber 20 Jan 71*

cc: Engr-Lev & Chan    Engr-Prog Dev    Valley    F & A (Cordano)

THE RECLAMATION BOARD  
OF THE  
STATE OF CALIFORNIA

February 25, 1953

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

Dear Sir:

Reference your letters, File No. SPKKO-P 824.3 (Sac. R. F.C.P.) dated 9 July 1952, 15 August 1952, and 15 January 1953, wherein the following levee units were transferred to the State of California:

9 July 1952 (a) The westerly levee of the Sacramento River (Part "A" of Specification No. 1636, near Glenn).

1. From Mile 165.5 to Mile 167.5
2. From Mile 168.0 to Mile 174.1

(b) -----

1. -----
2. -----

The Reclamation Board on behalf of the State of California, in meeting held February 18, 1953, accepted the above-mentioned levee units, together with their contiguous waterway banks, for operation and maintenance.

Yours very truly,

THE RECLAMATION BOARD

A. M. BARTON

Chief Engineer and General Manager

BY /s/ S. A. Honaker

S. A. HONAKER

Assistant Secretary

NOTE: Only items pertaining to Operation and Maintenance Manual No. 139 are included in the above copy.

THE RECLAMATION BOARD  
OF THE  
STATE OF CALIFORNIA

March 9, 1953

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

Dear Sir:

Reference your letters, file No. SPKKO-P 824.3 (Sac. R. F.C.P.) dated 3 December 1951, 8 December 1951, 4 February 1953, and 13 February 1953, wherein the following levee units were transferred to the State of California:

3 Dec 51           The westerly levee of the Sacramento River.

1. From Princeton (Mile 163.8) to Packers Warehouse (Mile 165.5).
2. From Mile 167.5 to opposite Packers Lake (Mile 168.0).

8 Dec 51           -----

The Reclamation Board on behalf of the State of California, in meeting held March 4, 1953, accepted the above-mentioned levee units, together with their contiguous waterway banks, for operation and maintenance.

Yours very truly,

THE RECLAMATION BOARD

/s/ D. M. Carr  
D. M. CARR

NOTE: Only items pertaining to Operation and Maintenance Manual No. 139 are included in the above copy.

SPKKO-P 824.3 (Sac. R. FCP)

22 JUL 1952

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

Gentlemen:

Reference is made to letter from this office dated 9 July 1952, wherein it was suggested that a joint inspection be made for the purpose of transferring to the jurisdiction of the State of California, when completed, various units of the Sacramento River Flood Control Project in accordance with the procedure set forth in a letter from this office dated 12 February 1951. Reference is also made to the joint inspection of these units of work which was made on 15 July 1952.

In accordance with the above, you are hereby advised that four of the units mentioned above were completed on 21 July 1952. These completed units are described as follows:

a. Westerly Levee along the Sacramento River, Part "A" of Specification No. 1636, Drawing No. 50-4-2897, near Glenn, Glenn County, California.

- 343 (1) From Mile 165.5 to Mile 167.5 139
- 344 (2) From Mile 168.0 to Mile 174.1 139, 140

b. Easterly Levee along the Sacramento River, Part "B" of Specification 1636, Drawing No. 50-4-2897, near Butte City, Glenn County, California.

- 345 (1) From Mile 164.4 to Mile 168.5 ~~139~~ 138
- 346 (2) From Mile 168.9 to Mile 176.5 ~~139, 140~~ 138

7/22/52

824.3 (Sac. R. FCP) SPK

69

Levee Sections  
343 to 346  
Letter No. 35



SPKKO-P 824.3 (Sac. R. FCP)  
The Reclamation Board

The completed levee units referred to above, form an integral part of the Sacramento River Flood Control Project and meet with the requirements of the project. Therefore said levee units, together with the waterway bank contiguous thereto, are hereby transferred to the State of California for maintenance and operation.

It is to be noted that the sections of levee listed below, including portions of levee on which patrol roads were recently constructed under Part "A" and "B" of Specification No. 1636, were previously transferred to the State of California for operation and maintenance:

a. Westerly levee along the Sacramento River:

- 137, 139 (1) From Princeton (Mile 163.8) to Packers Warehouse, (Mile 165.5). Transferred by letter dated 3 December 1951, under Item c.
- 139 (2) From Mile 167.5 to opposite Packers Lake, Mile 168.0. Transferred by letter dated 3 December 1951, under Item b.
- 140 (3) From Glenn, Mile 174.1 to Sidds Landing, Mile 177.5. Transferred by letter dated 3 December 1951, under Item a.

b. Easterly levee of the Sacramento River:

- 136 (1) From Mile 158.5 (North end Moulton Weir) to Mile 164.4 (Princeton Ferry). Transferred by letters dated 6 February 1945 and 8 December 1951, paragraph b(3) of last letter.
- 138 (2) From Mile 168.5 to Mile 168.9 (at Butte City). Transferred by letter dated 8 December 1951, under Item paragraph b(4).

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 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 units of work 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:  
State Engineer

cc: Office Chief of Engrs.  
Engr. Divn. R. Reifsnnyder  
So. Pac. Divn. Engr  
Sacto F. O. Executive Officer  
C de Arrieta

Concurrences	6	22 July 1952
Originator:		
Date:		
Exec. O	3	
Chief		
Ad. Asst.	2	13
Chf. Tech		
Chf. Insp.		
Office		
Supv.		
Oper.		
Engr'g		
R. E.		
Fisc.		
Pers.		
Legal		
Supply		

70

EARL WARREN  
GOVERNOR

A. R. GALLAWAY, JR., SACRAMENTO  
PRESIDENT  
GROVER SHANNON, YUBA CITY  
VICE PRESIDENT  
GEO. H. HOLMES, CLARKSBURG  
SECRETARY  
W. P. HARKEY, GRIDLEY  
GEO. R. WILSON, WALNUT GROVE  
GEO. E. LODI, ARBUCKLE  
DOUGLAS B. COHEN, BANTA

THE RECLAMATION BOARD  
OF THE  
STATE OF CALIFORNIA  
1100 O STREET  
SACRAMENTO 14, CALIFORNIA

A. M. BARTON  
CHIEF ENGINEER AND GENERAL MANAGER  
EDMUND G. BROWN, ATTORNEY GENERAL  
LEGAL ADVISER  
G. F. MELLIN  
ASSISTANT ENGINEER AND APPRAISER  
S. A. HONAKER  
ASSISTANT SECRETARY

4/2/52

April 2, 1952

District Engineer  
Sacramento District  
Corps of Engineers, U. S. Army  
P. O. Box 1739  
Sacramento 8, California

Dear Sir:

1. Reference is made to your letter of 3 December 1951, File SPKKA 824.3, transferring west levees of the Sacramento River and contiguous waterway banks to The Reclamation Board as follows:

- Item 6 a. Sidds Landing (Mile 177.5) to Glenn (Mile 174.1)
- Item 7 b. Opposite Packers Lake (Mile 168 to Mile 167.5)
- Item 8 c. Packers Warehouse (Mile 165.5) to Princeton (Mile 163.8)

2. The levee under Item "a" above has been accepted by The Reclamation Board. This levee and the levee from Mile 174.1 to Mile 170.8 are now maintained by the State of California under "Maintenance Area No. 2", in accord with the provisions of Sections 8400 to 8447 of the Water Code of the State of California.

3. The levees under Items "b" and "c" except for the section from Mile 164.3 to Mile 163.8 have since construction thereof and are now maintained by Glenn County Levee District No. 2, a locally organized district. This levee district is also presently maintaining the levee from Mile 170.8 to Mile 168.0 and from Mile 167.5 to Mile 165.5. The section of levee from Mile 164.3 to 163.8 is now maintained by the State of California under "Maintenance Area No. 1" established under the above sections of the Water Code.

4. The State of California is obligated and restricted by State law to maintenance of flood control works of the Sacramento River Flood Control Project.

5. The Sacramento River and its banks are used by the United States for navigation. Numerous jetties and other navigation aids are responsible for much of the present need for bank revetment. Wave wash, particularly at low water stages from navigation, has undermined banks and levees. These are a continuing source of bank deterioration and are not connected with any flood control maintenance obligation of the State.

6. Operation of Shasta Reservoir by the United States for purposes other than flood control has already caused insipient failure

Reach No. 1  
Items 6 to 8

824.3(SAC.F.PGP)SPK

District Engineer  
April 2, 1952

of many million dollars of completed flood control works. The damage caused by operation of that Reservoir in May 1948, is in the process of repair. The State has, and is cooperating with the Corps of Engineers in this repair and by legislative direction is presenting claims for this cost to the United States. Current and continuing operation of Shasta Reservoir in generation of Federal Power and transportation of water sold by the United States has changed the regimen of the streams so that bank caving, particularly in the stretches of the Sacramento River above Colusa, has materially increased. Neither Federal nor State legislation has made maintenance of river banks caused by this Federal operation, an obligation of the State.

7. The Reclamation Board on December 18, 1951, formally accepted the levee under Item "a" above, together with its contiguous waterway bank for flood control operation and maintenance.

8. The levees and contiguous banks covered in Items "b" and "c" are not formally accepted. These items do not constitute a contiguous section of work susceptible of economic maintenance. Maintenance as now performed will be carried forward. Formal acceptance will be made for flood control operation and maintenance when Federal construction obligation is complete from Mile 170.8 to Mile 164.3. The maintenance area responsible for this 6.5 miles of levee maintenance was formed under State law before any Federal participation was operative in flood control works.

Yours very truly,

THE RECLAMATION BOARD

By 

A. M. BARTON

Chief Engineer and General Manager

AMB:FK

cc: Chief of Engineers  
Washington, D. C.  
Division Engineer  
South Pacific Division  
Corps of Engineers, U. S. Army  
P. O. Box 3339, Raincon Annex  
San Francisco 19, California  
State Engineer  
Sacramento, California

Item 6 to 8

REGISTERED MAIL  
Return Receipt  
Requested

Letter No 2

2

SPKMA 824.5(Sac. Riv. F.C.P.)

3 DEC 1951

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

Ref. Rec. Board letter of 2 April 1952  
The Board accepted formally Item 6 on 18 Dec. 1951  
The Board considers Items 7 and 8 are not suitable  
for maintenance, because they do not constitute  
a contiguous section of work.  
Formal acceptance will be made of the reach from  
170.8 to 164.3 when Federal obligation is completed.

Gentlemen:

Reference is made to your letter of 20 April 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 the westerly levee of the Sacramento River at the following locations:

Accepted by  
Letter dated  
9 March 1953

- \* Letter dated 2 April 1952
- a. Sids Landing (Mile 177.5) to Glenn (Mile 174.1) 140
- b. Opposite Packers Lake (Mile 168.0 to Mile 167.5) 139
- c. Packers Warehouse (Mile 165.5) to Princeton (Mile 163.8) 137, 139

The records of this office show that on 19 January 1944 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

Reach No 1  
Items 6 to 8

Letter No. 2

2

SPEKA 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)  
De Arrieta



**EXHIBIT G**

**SUGGESTED SEMI-ANNUAL REPORT FORM**

THE RECLAMATION BOARD  
OF THE  
STATE OF CALIFORNIA

February 25, 1953

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

Dear Sir:

Reference your letters, File No. SPKKO-P 824.3 (Sac. R. F.C.P.) dated 9 July 1952, 15 August 1952, and 15 January 1953, wherein the following levee units were transferred to the State of California:

9 July 1952 (a) The westerly levee of the Sacramento River (Part "A" of Specification No. 1636, near Glenn).

1. From Mile 165.5 to Mile 167.5

2. From Mile 168.0 to Mile 174.1

(b) -----

1. -----

2. -----

The Reclamation Board on behalf of the State of California, in meeting held February 18, 1953, accepted the above-mentioned levee units, together with their contiguous waterway banks, for operation and maintenance.

Yours very truly,

THE RECLAMATION BOARD

A. M. BARTON

Chief Engineer and General Manager

BY /s/ S. A. Honaker

S. A. HONAKER

Assistant Secretary

NOTE: Only items pertaining to Operation and Maintenance Manual No. 139 are included in the above copy.

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

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

Dear Sir:

The semi-annual report for the period (1 May 19\_\_ to 31 October 19\_\_) (1 November 19\_\_ to 30 April 19\_\_). Unit No. 139 of the Sacramento River Flood Control Project, the west levee of the Sacramento River from the north boundary of Levee District No. 2 to the north end of Princeton Warehouse is as follows:

a. The physical condition of the protective works is indicated by the inspector's report, 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 89.0 on the gage in the Sacramento River at Butte City) 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 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) incroachments or trespasses upon the project right-of-way.

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 semi-annual 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