

**State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES
Division of Flood Management**

**2001
OFFICE REPORT**

On

**INSPECTION OF FLOOD CONTROL STRUCTURES
ON THE SACRAMENTO AND SAN JOAQUIN RIVERS
AND THEIR TRIBUTARIES**

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TABLE OF CONTENTS

	<u>PAGE</u>
ORGANIZATION.....	ii
INTRODUCTION.....	v
History of Report	
Responsibility for Maintenance	
REPORT SUMMARY.....	vi
CHAPTER I.	
FLOOD CONTROL STRUCTURES INSPECTED ON THE SACRAMENTO RIVER AND TRIBUTARIES	
North Fork Feather River Diversion and Drop Structures.....	2
Clover Creek Diversion Structure.....	20
Middle Creek Pumping Plant.....	23
Highland Canal Diversion Weir and Drainage Structure.....	26
Big Chico Creek Control Structure.....	29
Lindo Channel Diversion Weir.....	31
Lindo Channel Diversion Weir.....	33
Little Chico Creek Control and Weir Structures.....	36
Moulton Weir.....	41
Colusa Weir.....	43
Tisdale Weir.....	45
Butte Slough Outfall Structure.....	47
Butte Slough Drainage Structure.....	49
Sutter Bypass Pumping Plant No. 1.....	52
Sutter Bypass Pumping Plant No. 2.....	55
Sutter Bypass Pumping Plant No. 3.....	58
Wadsworth Canal Weir No. 4.....	61
Sutter Bypass (East Borrow Pit) Weir No. 2.....	63
Nelson Bend Quarry Rock Weir.....	65
Knights Landing Outfall Structure.....	68
Fremont Weir.....	72
Cache Creek Settling Basin Weir and Drainage Structure.....	75
Sacramento Weir.....	78
Magpie Creek Pumping Plant.....	81
American River Pumping Plant No. 1.....	83
American River Pumping Plant No. 2.....	85
Elk Slough Inlet Structure.....	89

**TABLE OF CONTENTS
(Continued)**

CHAPTER II.

**hFLOOD CONTROL STRUCTURES INSPECTED
ON THE SAN JOAQUIN RIVER AND
TRIBUTARIES**

	<u>PAGE</u>
Mormon Slough Pumping Plant No. 1.....	92
Mormon Slough Pumping Plant No. 2.....	94
Mormon Slough Pumping Plant No. 3.....	96
Duck Creek Diversion Weir and Control Structure.....	98
Paradise Dam.....	101
Wetherbee Lake Pumping Plant and Navigation Gate.....	103
Gomes Lake Pumping Plant.....	106
Reclamation District No. 2063 Pumping Plant.....	108
Black Rascal Creek Drop Structure.....	110
Owens Creek Siphon Structure.....	112
Ash and Berenda Slough Control Structures.....	114
Fresno River Diversion Weir.....	117
Bear Creek Diversion Structure.....	119
Owens Creek Control Structure.....	121
Owens Creek Overflow Structure.....	123
Mariposa Bypass Control Structure.....	125
Eastside Bypass Control Structure.....	127
Mariposa Bypass Drop Structure.....	130
San Joaquin River Structure and Sand Slough Structure.....	132
Fresno River Drainage Structure.....	135
Ash Slough Drop Structure No. 1.....	137
Ash Slough Drop Structure No. 2.....	139
Ash Slough Drop Structure No. 3.....	141
Ash Slough Drop Structure No. 4.....	143
Eastside Bypass Drop Structure No. 1.....	145
Eastside Bypass Drop Structure No. 2.....	147
San Joaquin River and Chowchilla Canal Bypass Control Structures.....	149

MAP

**SACRAMENTO AND SAN JOAQUIN RIVERS
FLOOD CONTROL PROJECT**

Pocket at Back of Report

INTRODUCTION

The flood control system of the Sacramento and San Joaquin Valleys depends on the levee system and the many structures built on the tributaries and bypasses. These structures are fixed crest diversion weirs, controllable diversion structures, outfall structures, drop structures, and interior drainage pumping plants. This report reviews the maintenance of these structures.

History of Report

The maintenance effort expended on these structures has been the subject of an annual report dating back to 1959. At that time, a report entitled, "Location, Description and Inventory of Miscellaneous Project Structures, Sacramento River Flood Control Project, and American River Flood Control Project", was issued and was followed shortly thereafter by a maintenance status report. Maintenance status reports on flood control structures have since been made on an annual basis.

Responsibility for Maintenance

The flood control structures included herein were, in general, constructed as an integral part of the flood control project, by the U.S. Army Corps of Engineers and the State of California. Operation and Maintenance manuals were issued by the constructing authority to the maintaining agency. Maintaining agencies agreed to be responsible for the maintenance of the project construction. The State of California makes periodic inspection of the quality of the maintenance performed by the maintaining agencies and reports its findings to those agencies. These inspections are made on behalf of The Reclamation Board by the Flood Project Inspection Section, Flood Operations Branch, Division of Flood Management.

The purpose of the inspection is to identify and report to the constructing authority and the maintaining agency any condition which may diminish the ability of the structure to perform its intended function.

CHAPTER I

FLOOD CONTROL STRUCTURES INSPECTED ON THE SACRAMENTO RIVER AND TRIBUTARIES

2001

**INSPECTION OF NORTH FORK FEATHER RIVER
DIVERSION STRUCTURE
(Maintained by Plumas County)
August 2001**

1. **Condition of concrete diversion structure.**
 - a. **Good.**
2. **Condition of the gauging house and equipment.**
 - a. **Fair. There are still numerous bullet holes in the door.**
3. **Condition of the steel trash racks.**
 - a. **Good.**
4. **Condition of debris deflection structure.**
 - a. **Good. The damaged sections reported in the 1998 Structure Report have been repaired.**
5. **Condition of the revetments.**
 - a. **Good.**
6. **Accumulation of trash and debris around structure or in the channel.**
 - a. **Minimal amount of debris around the deflection structure.**
7. **Vegetation around the structure or in the channel.**
 - a. **None.**
8. **Condition of the conduits.**
 - a. **The center conduit was inspected this year and found to be in good condition. However the separations at the joints between the monoliths have increased.**

**INSPECTION OF NORTH FORK FEATHER RIVER
DIVERSION STRUCTURE
(Cont'd)
(Maintained by Plumas County)
August 2001**

- 9. Condition of the discharge structure.**
- a. The structure is in good condition, however the lock was missing from the gate located on the east side of the structure.**

10. Comments:

- a. Good maintenance.**
- b. Replace the lock on the discharge structure gate for security and public safety.**

NOTE: Routinely, one of the three diversion structure conduits is jointly inspected each year with the Corps of Engineers and Plumas County. DWR was in attendance at this inspection this year.

**INSPECTION OF NORTH FORK FEATHER RIVER
(Maintained by Plumas County)
DIVERSION STRUCTURE
August 2002**



Looking upstream at the inlet side of the diversion structure.



Looking at the steel trash racks.

**INSPECTION OF NORTH FORK FEATHER RIVER
DIVERSION STRUCTURE
(Maintained by Plumas County)
August 2001**



Looking towards the diversion structure at the conduit inlet .



Looking downstream at the outlet works.

Note open gate.

**INSPECTION OF NORTH FORK FEATHER RIVER
DROP STRUCTURE NO. 1
(Maintained by Plumas County)
August 2001**

- 1. Condition of grouted rock revetment drop structure.**
 - a. Good.**
- 2. Condition of channel banks upstream and downstream of the drop structure.**
 - a. Good.**
- 3. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**
- 4. Vegetation around the structure, in the channel banks or in the channel.**
 - a. None.**
- 5. Comments:**
 - a. Good maintenance.**

**INSPECTION OF NORTH FORK FEATHER RIVER
DROP STRUCTURE NO. 1
(Maintained by Plumas County)
August 2001**



Looking at the structure from the left bank.

**INSPECTION OF NORTH FORK FEATHER RIVER
DROP STRUCTURE NO. 2
(Maintained by Plumas County)
August 2001**

- 1. Condition of grouted rock revetment drop structure.**
 - a. Good.**

- 2. Condition of the channel banks upstream and downstream of the drop structure.**
 - a. Good.**

- 3. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**

- 4. Vegetation around the structure, in the channel banks or in the channel.**
 - a. Minimal.**

- 5. Comments:**
 - a. Good maintenance.**

**INSPECTION OF NORTH FORK FEATHER RIVER
DROP STRUCTURE NO. 2
(Maintained by Plumas County)
August 2001**



Looking upstream at the drop structure from the left bank.

**INSPECTION OF NORTH FORK FEATHER RIVER
DROP STRUCTURE NO. 3
(Maintained by Plumas County)
August 2001**

1. **Condition of grouted rock revetment drop structure.**
 - a. **Good.**
2. **Condition of channel banks upstream and downstream of the drop structure.**
 - a. **Good.**
3. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **None.**
4. **Vegetation around the structure, in the channel banks or in the channel.**
 - a. **None.**
5. **Comments:**
 - a. **Good maintenance.**

**INSPECTION OF NORTH FORK FEATHER RIVER
DROP STRUCTURE NO. 3
(Maintained by Plumas County)
August 2001**



Looking upstream at the drop structure from the left bank.

**INSPECTION OF NORTH FORK FEATHER RIVER
DROP STRUCTURE NO. 4**

**(Maintained by Plumas County)
August 2001**

1. **Condition of grouted rock revetment drop structure.**
 - a. **Good.**
2. **Condition of channel banks upstream and downstream of the drop structure.**
 - a. **Good.**
3. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **None.**
4. **Vegetation around the structure, in the channel banks or in the channel.**
 - a. **None.**
5. **Comments:**
 - a. **Good maintenance.**

**INSPECTION OF NORTH FORK FEATHER RIVER
DROP STRUCTURE NO. 4.
(Maintained by Plumas County)**

August 2001



Looking at the drop structure from the left bank.

**INSPECTION OF NORTH FORK FEATHER RIVER
DROP STRUCTURE NO. 5
(Maintained by Plumas County)
August 2001**

- 1. Condition of grouted rock revetment drop structure.**
 - a. Good.**

- 2. Condition of channel banks upstream and downstream of the drop structure.**
 - a. Good.**

- 3. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**

- 4. Vegetation around the structure, in the channel banks or in the channel.**
 - a. None.**

- 5. Comments:**
 - a. Good maintenance.**

**INSPECTION OF NORTH FORK FEATHER RIVER
DROP STRUCTURE NO. 5
(Maintained by Plumas County)
August 2001**



Looking upstream at the drop structure from the left bank.

**INSPECTION OF NORTH FORK FEATHER RIVER
DROP STRUCTURE NO. 6
(Maintained by Plumas County)
August 2001**

- 1. Condition of grouted rock revetment drop structure.**
 - a. Good.**
- 2. Condition of channel banks upstream and downstream of the drop structure.**
 - a. Good.**
- 3. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**
- 4. Vegetation around the structure, in the channel banks or in the channel.**
 - a. None.**
- 5. Comments:**
 - a. Good maintenance.**

**INSPECTION OF NORTH FORK FEATHER RIVER
DROP STRUCTURE NO. 6
(Maintained by Plumas County)
August 2001**



Looking at upstream side of structure from the right bank.

**INSPECTION OF NORTH FORK FEATHER RIVER
DROP STRUCTURE NO. 7
(Maintained by Plumas County)
August 2001**

1. **Condition of grouted rock revetment drop structure.**
 - a. **Good.**
2. **Condition of channel banks upstream and downstream of the drop structure.**
 - a. **Good.**
3. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **None.**
4. **Vegetation around the structure, in the channel banks or in the channel.**
 - a. **Minimal.**
5. **Comments:**
 - a. **Good maintenance.**

**INSPECTION OF NORTH FORK FEATHER RIVER
DROP STRUCTURE NO. 7
(Maintained by Plumas County)
August 2001**



Looking upstream at the drop structure from the left bank.

INSPECTION OF CLOVER CREEK DIVERSION STRUCTURE
(Maintained by Lake County Flood Control and Water Conservation District)
August 2001

1. **Condition of concrete weir structure.**
 - a. **Good, but ineffective due to accumulation of gravel upstream of the structure.**
2. **Condition of the diversion structure and wingwalls.**
 - a. **Good, but pipes are three quarters full of sand.**
3. **Condition of the bulkhead.**
 - a. **Good.**
4. **Condition of the control gates and mechanism.**
 - a. **Good.**
5. **Accumulation of trash and debris around the structures or in the channel.**
 - a. **Gravel has accumulated and fills the channel to the top of the weir, thus it does not pond water upstream as it was designed to do.**
 - b. **Gravel has accumulated around the outlet side of the structure and has nearly filled the discharge pipes.**
6. **Vegetation around the structures or in the channel.**
 - a. **A pilot channel has been cleared upstream of the structure.**
 - b. **There is dense vegetation in the creek channel, 100 feet downstream of the structure.**
7. **Comments:**
 - a. **Fair maintenance.**

**INSPECTION OF CLOVER CREEK DIVERSION STRUCTURE
(Maintained by Lake County Flood Control and Water Conservation District)
August 2001**



**Looking at water flowing over the concrete weir.
Weir is ineffective due to gravel build-up upstream.**



Looking downstream at the diversion structure on the left bank.

**INSPECTION OF CLOVER CREEK DIVERSION STRUCTURE
(Maintained by Lake County Flood Control and Water Conservation District)
August 2001**



**Looking at two of the six, 36 inch discharge
pipes at the outlet side of diversion structure.
These pipes are nearly full of sediment.**

**(Maintained by State of California)
(Sutter Maintenance Yard)
August 2001**

- 1. Condition of main pump structure and switchboard house.**
 - a. Poor. The separation between the top of the surge box and the structure appears to be 8 ½-inch side displacement. The surge box has settled 12 inches since 1962 and is 7.6 feet below the top of the structure. The surge box is moving towards the channel. There is approximately a 2-inch deflection. There have been no changes since last reported.**

- 2. Condition of pumps and motors.**
 - a. Pump # 1 is out of service.
Sutter Yard is planning to repair the pump prior to flood season.**

- 3. Condition of electrical equipment.**
 - a. Good.**

- 4. Condition of control gates, mechanisms, and flap gates.**
 - a. Good.**

- 5. Condition of the trashracks.**
 - a. Good.**

- 6. Condition of log boom.**
 - a. Good.**

- 7. Condition of hydrographic facilities.**
 - a. Good.**

- 8. Accumulation of trash or debris in the sump.**
 - a. None.**

INSPECTION OF MIDDLE CREEK PUMPING PLANT (Cont'd)
(Maintained by State of California)
(Sutter Maintenance Yard)
August 2001

9. Vegetation in sump.

a. Minimal.

10. Comments:

a. The Sutter Maintenance Yard recently took over responsibility for the pumping plant as part of the newly formed Maintenance Area 17.

**(Sutter Maintenance Yard)
August 2001**



Looking upstream at the pumping plant from the left bank levee.



Looking upstream at the intake side of the pumping plant.

**INSPECTION OF HIGHLAND CANAL DIVERSION WEIR
AND DRAINAGE STRUCTURE**

**(Maintained by State of California)
(Sutter Maintenance Yard)
August 2001**

- 1. Condition of concrete weir structure and stilling basin.**
 - a. Good.**
- 2. Condition of drainage structure.**
 - a. Good.**
- 3. Condition of the concrete abutments and wingwalls.**
 - a. There is a displacement between both wingwalls and the structure, 2 inches on left wingwall and 2 ½ inches on the right wingwall. Displacement has been stable for at least 5 years.**
- 4. Condition of the revetment.**
 - a. Good.**
- 5. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**
- 6. Vegetation around the structure or in the channel.**
 - a. Minimal tule growth in discharge channel.**
- 7. Comments:**
 - a. Good maintenance.**

**INSPECTION OF HIGHLAND CANAL DIVERSION WEIR
AND DRAINAGE STRUCTURE
(Maintained by State of California)
(Sutter Maintenance Yard)
August 2001**



Looking downstream at the concrete weir from the left bank.



Looking at the intake of diversion pipes.

INSPECTION OF HIGHLAND CANAL DIVERSION WEIR

**AND DRAINAGE STRUCTURE
(Maintained by State of California)
(Sutter Maintenance Yard)
August 2001**



Looking upstream at the discharge pipes and flap gates.

**INSPECTION OF BIG CHICO CONTROL STRUCTURE
(Maintained by Butte County)
August 2001**

- 1. Condition of concrete control structure.**
 - a. Good.**
- 2. Condition of bulkheads.**
 - a. Good.**
- 3. Condition of gate controls and mechanisms.**
 - a. Butte Co. will test gates prior flood season.**
- 4. Condition of revetment.**
 - a. Good.**
- 5. Accumulation of trash and debris around the structure in the channel.**
 - a. None.**
- 6. Vegetation around structure and in the channel.**
 - a. There is minimal vegetation in the revetment on the upstream side of the structure.**
- 7. Comments:**
 - a. Clear growth.**
 - b. Contact DWR Inspector prior to gate test.**
 - c. Good maintenance.**

**INSPECTION OF BIG CHICO CREEK CONTROL STRUCTURE
(Maintained by Butte County)
August 2001**



Looking downstream at inlet end of structure.



Looking upstream at discharge end of structure from the right bank.

**INSPECTION OF LINDO CHANNEL DIVERSION WEIR
(Maintained by Butte County)
August 2001**

- 1. Condition of concrete weir structure and stilling basin, and velocity dissipaters.**
 - a. There are minor joint separations on the north and south ends of the weir where it contacts the abutments.**
 - b. There is minor damage to several velocity dissipaters and severe damage to one.**
- 2. Condition of concrete abutments and wingwalls.**
 - a. Good.**
- 3. Condition of revetment.**
 - a. Good.**
- 4. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**
- 5. Vegetation around structure or in the channel.**
 - a. Minimal.**
- 6. Condition of gauging house and equipment.**
 - a. Fair.**
- 7. Comments:**
 - a. Repair the severely damaged velocity dissipater.**
 - b. Remove vegetation from channel.**
 - c.**
 - d. Good maintenance.**

**INSPECTION OF LINDO CHANNEL DIVERSION WEIR
(Maintained by Butte County)
August 2001**



Looking at upstream side of the structure from the left bank.



Looking at the velocity dissipaters on the downstream side of structure from the left bank.

**INSPECTION OF LINDO CHANNEL DIVERSION WEIR
(Maintained By Butte County)
August 2001**



Typical view of minimal joint separation at both ends of weir.



View of severely damaged velocity dissipater.

**INSPECTION OF LINDO CHANNEL CONTROL STRUCTURE
(Maintained by Butte County)
August 2001**

- 1. Conditions of concrete control structure.**
 - a. Good.**
- 2. Condition of bulkheads.**
 - a. There is a ½ inch separation in the joint between the south end bulkhead and the structure.**
- 3. Condition of control gates and mechanisms.**
 - a. Good.**
- 4. Condition of revetment.**
 - a. Poor. The downstream rock and gunite skirt is severely damaged.**
- 5. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**
- 6. Vegetation around the control structure or in the channel.**
 - a. None.**
- 7. Comments:**
 - a. Butte Co. will test the control gates prior to flood season.**
 - b. Repair the rock and gunite skirt downstream of structure.**
 - c. Fair maintenance.**

**INSPECTION OF LINDO CHANNEL CONTROL STRUCTURE
(Maintained by Butte County)
August 2001**



Looking downstream at intake side of structure.



Looking upstream at discharge side of structure.

**INSPECTION OF LINDO CHANNEL CONTROL STRUCTURE
(Maintained by Butte County)
August 2001**



View of damaged rock and gunite skirt down stream of structure.



**View of the 1/2 inch separation in the joint between
the structure and the south end abutment.**

**INSPECTION OF LITTLE CHICO CREEK
CONTROL AND WEIR STRUCTURES
(Maintained by State of California)
August 2001**

1. **Condition of concrete control structure.**
 - a. **Good.**
2. **Condition of bulkheads and wingwalls of the control structure.**
 - a. **The upstream wingwall on the right abutment is 5/8-inch out of alignment at the top. The downstream wingwall on the right abutment is 3/4-inch out of alignment at the top.**
3. **Condition of concrete weir, stilling basin, and velocity dissipators.**
 - a. **Minor cracks in the weir and minor spalling of concrete on the weir invert. Repairs have been made on past reported damage.**
 - b. **Driftwood and cobbles have accumulated around the velocity dissipators.**
4. **Condition of concrete bulkheads of the weir.**
 - a. **Good.**
5. **Condition of bulkheads and fill between the control structure and the weir.**
 - a. **Good**
6. **Condition of the revetments.**
 - a. **Good.**
7. **Condition of the log boom.**
 - a. **Log boom was not present at time of inspection.**
8. **Condition of the gauging station and equipment.**
 - a. **Good.**

**INSPECTION OF LITTLE CHICO CREEK
CONTROL AND WEIR STRUCTURES (Cont'd)
(Maintained by State of California)
August 2001**

- 9. Accumulation of trash and debris around the structures or in the channel.**
 - a. Minimal.**
- 10. Vegetation around the control structure, the weir, or in the channel.**
 - a. Minimal.**
- 11. Comments:**
 - a. Monitor joint separation between the control structure and the abutment and repair as needed.**
 - b. Remove driftwood and cobbles from dissipaters.**
 - c. This office will contact Sutter Maintenance Yard regarding the log boom.**
 - c. Good maintenance.**

**INSPECTION OF LITTLE CHICO CREEK
CONTROL AND WEIR STRUCTURES
(Maintained by State of California)
August 2001**



**Looking downstream at the control structure to the right
and the weir to the left from the right bank.**



Looking downstream at the control structure from the channel.

**INSPECTION OF LITTLE CHICO CREEK
CONTROL AND WEIR STRUCTURES
(Maintained by State of California)
August 2001**



**5/8ths inch separation between the control structure
and the abutment on the upstream side.**



3/4 inch separation between the control structure

and the abutment on the downstream side.

**INSPECTION OF LITTLE CHICO CREEK
CONTROL AND WEIR STRUCTURES
(Maintained by State of California)
August 2001**



Looking south at the weir, minimal debris in the stilling basin.



**Previously reported cracks and spalling
have been repaired with tar patches.**

**INSPECTION OF MOULTON WEIR
(Maintained by State of California)
August 2001**

- 1. Condition of concrete weir structure and stilling basin.**
 - a. Good.**
- 2. Condition of concrete abutment and wingwalls.**
 - a. Good.**
- 3. Condition of revetments.**
 - a. Good.**
- 4. Accumulation of trash and debris around structure or in the channel.**
 - a. None.**
- 5. Vegetation around the structure or in the channel.**
 - a. None.**
- 6. Condition of gauging house and equipment.**
 - a. Good.**
- 7. Comments:**
 - a. Good maintenance.**

**INSPECTION OF MOULTON WEIR
(Maintained by State of California)
August 2001**



Looking south at the weir and stilling basin.



Looking north at the downstream side of the weir from the left abutment.

**INSPECTION OF COLUSA WEIR
(Maintained by State of California)
August 2001**

1. **Condition of concrete weir structure and stilling basin.
(Note: bridge across bypass not a part of weir structure)**
 - a. **Good.**
2. **Condition of concrete abutment and wingwalls.**
 - a. **Good.**
3. **Condition of revetment.**
 - a. **Good.**
4. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **None**
5. **Vegetation around the structure or in the channel.**
 - a. **None.**
6. **Condition of gauging house and equipment.**
 - a. **Good.**
7. **Comments:**
 - a. **Good.**

**INSPECTION OF COLUSA WEIR
(Maintained by State of California)
August 2001**



Looking at upstream side of weir from the north levee.



Looking at the downstream side of the weir from the south levee.

**INSPECTION OF TISDALE WEIR
(Maintained by State of California)
August 2001**

- 1. Condition of concrete weir structure and stilling basin.
(Note: bridge across bypass is not a part of weir structure)**
 - a. Good.**
- 2. Condition of concrete abutment and wingwall.**
 - a. Good.**
- 3. Condition of revetments.**
 - a. Good.**
- 4. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**
- 5. Vegetation around structure or in the channel.**
 - a. Minimal.**
- 6. Condition of gauging house and equipment.**
 - a. Good.**
- 7. Comments:**
 - a. Good maintenance.**

**INSPECTION OF TISDALE WEIR
(Maintained by State of California)
August 2001**



Looking at the upstream side of the weir from the north abutment.



Looking at the downstream side of the weir from the south abutment.

**INSPECTION OF BUTTE SLOUGH OUTFALL STRUCTURE
(Maintained by State of California)
September 2001**

- 1. Condition of walkway and supports.**
 - a. Good.**
- 2. Condition of pipes.**
 - a. Good.**
- 3. Condition of the control gates, mechanisms and flap gates.**
 - a. Good.**
- 4. Condition of log boom.**
 - a. The log boom has been removed from the channel.**
- 5. Condition of gauging house and equipment.**
 - a. Good.**
- 6. Condition of revetment.**
 - a. Good.**
- 7. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**
- 8. Comments:**
 - a. Replace the log boom.**
 - b. Good maintenance.**

**INSPECTION OF BUTTE SLOUGH OUTFALL STRUCTURE
(Maintained by State of California)
September 2001**



Looking at the intake side of the structure.



Looking at the outlet side of the structure.

**INSPECTION OF BUTTE SLOUGH DRAINAGE STRUCTURE
(0.44 MILE UPSTREAM OF THE BUTTE SLOUGH OUTFALL STRUCTURE)
(Maintained by State of California)
September 2001**

1. **Condition of the corrugated metal pipe (CMP) drainage structure.**
 - a. **Good.**
2. **Condition of the control gate, mechanisms, and flap gates.**
 - a. **Could not properly inspect due to excessive vegetation.**
3. **Condition of the revetment.**
 - a. **Good.**
4. **Accumulation of trash and debris around the inlet, in the pipe or in the channel.**
 - a. **Could not properly inspect due to excessive vegetation.**
5. **Vegetation around the structure or in the channel.**
 - a. **Heavy vegetation around structure. Growth is so dense that intake and discharge ends of structure cannot be seen.**
6. **Comments:**
 - a. **Remove vegetation from inlet and discharge ends of structure. If growth is not removed, the drainage structure could become non functional.**
 - b. **No maintenance.**

**INSPECTION OF BUTTE SLOUGH DRAINAGE STRUCTURE
(Maintained by State of California)
September 2001**



Looking at the CMP stand pipe in the center of picture, obscured by heavy growth.



Looking at the inlet channel.

**(Maintained by State of California)
September 2001**



Looking at the dense growth covering the outlet.

**INSPECTION OF SUTTER BYPASS PUMPING PLANT NO. 1
(Maintained by State of California)
September 2001**

1. **Condition of the main pump structure.**
 - a. **Good.**
2. **Condition of abutments and wingwalls.**
 - a. **Good.**
3. **Condition of pumps and motors.**
 - a. **Good.**
4. **Condition of control gates, mechanisms, and flap gate.**
 - a. **Good.**
5. **Condition of electrical equipment.**
 - a. **Good.**
6. **Condition of trashrack.**
 - a. **Good.**
7. **Condition of revetment.**
 - a. **Good.**
8. **Accumulation of trash and debris in the sump.**
 - a. **None.**
9. **Vegetation in the inlet channel.**
 - a. **None.**

INSPECTION OF SUTTER BYPASS PUMPING PLANT NO. 1 (Cont'd)

**(Maintained by State of California)
September 2001**

10. Comments:

- a. Tests of pumps, motors and electrical equipment are conducted in October each year.**
- b. Good maintenance.**

September 2001



Looking at the intake side of the pumping plant.



Looking at the discharge side of the pumping plant.

**INSPECTION OF SUTTER BYPASS PUMPING PLANT NO. 2
(Maintained by State of California)
September 2001**

1. **Condition of main pump structure.**
 - a. **Good.**
2. **Condition of abutments and wingwalls.**
 - a. **Good.**
3. **Condition of pumps and motors.**
 - a. **Good.**
4. **Condition of control gates, mechanisms, and flap gates.**
 - a. **Good.**
5. **Condition of electrical equipment.**
 - a. **Good.**
6. **Condition of the trashracks.**
 - a. **Good.**
7. **Condition of revetment.**
 - a. **Good.**
8. **Accumulation of trash or debris in the sump.**
 - a. **None**
9. **Vegetation in the inlet channel.**
 - a. **None.**

INSPECTION OF SUTTER BYPASS PUMPING PLANT NO. 2, (Cont'd)
(Maintained by State of California)
September 2001

10. Comments:

- a. Tests of the pumps, motors, and electrical equipment are conducted in October each year.**
- b. Good maintenance.**

**INSPECTION OF SUTTER BYPASS PUMPING PLANT NO. 2
(Maintained by State of California)
September 2001**



Looking at the pumping plant, sump and trashracks from the intake side.



Looking at the discharge side of the pumping plant.

INSPECTION OF SUTTER BYPASS PUMPING PLANT NO. 3
(Maintained by State of California)
September 2001

1. **Condition of main pump structure.**
 - a. **Good.**
2. **Condition of abutments and wingwalls.**
 - a. **Good.**
3. **Condition of pumps and motors.**
 - a. **Good.**
4. **Condition of control gate, mechanisms and flap gate.**
 - a. **Good.**
5. **Condition of electrical equipment.**
 - a. **Good.**
6. **Condition of the trashracks.**
 - a. **Good.**
7. **Accumulation of trash or debris in the sump.**
 - a. **None.**
8. **Vegetation in the inlet channel.**
 - a. **None.**

INSPECTION OF SUTTER BYPASS PUMPING PLANT NO. 3
(Maintained by State of California)
September 2001

9. Comments:

- a. Tests of the pumps, motors and electrical equipment are conducted in October each year.**
- b. Good maintenance.**

**INSPECTION OF SUTTER BYPASS PUMPING PLANT NO. 3
(Maintained by State of California)
September 2001**



Looking at the inlet side of the pumping plant.



Looking at the discharge side of the pumping plant.

**INSPECTION OF WADSWORTH CANAL WEIR NO. 4
(Maintained by State of California)
September 2001**

- 1. Condition of concrete weir structure.**
 - a. Good.**
- 2. Condition of concrete abutments.**
 - a. Good.**
- 3. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**
- 4. Vegetation around structure or in the channel.**
 - a. None.**
- 5. Comments:**
 - a. Good maintenance.**

**INSPECTION OF WADSWORTH CANAL WEIR NO. 4
(Maintained by State of California)
September 2001**



Looking at the upstream side of structure from the left bank levee.



Looking at the downstream side of structure from the left bank levee.

**INSPECTION OF SUTTER BYPASS WEIR NO. 2
(EAST BORROW PIT)
(Maintained by State of California)
September 2001**

1. **Condition of concrete weir structure.**
 - a. **Good.**
2. **Condition of concrete abutments.**
 - a. **Good.**
3. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **None.**
4. **Vegetation around structure or in the channel.**
 - a. **None.**
5. **Comments:**
 - a. **Good maintenance.**

**INSPECTION OF SUTTER BYPASS WEIR NO. 2
(EAST BORROW PIT)
(Maintained by State of California)
September 2001**



Looking at the upstream side of the structure.



Looking at the downstream side of the structure.

**INSPECTION OF NELSON BEND QUARRY ROCK WEIR
(Maintained by State of California)
September 2001**

- 1. Condition of quarry rock weir section.**
 - a. Good.**
- 2. Condition of revetments.**
 - a. Good.**
- 3. Accumulation of trash and debris around structure or in the channel.**
 - a. Areas of debris exist along the weir and in the channel.**
- 4. Vegetation around structure or in the channel.**
 - a. Vegetation is very heavy, with trees, brush and berries on the weir section and in the rock revetments.**
- 5. Comments:**
 - a. No clearing done since 1985. The vegetation is extremely dense and could impair the functioning of the weir.**
 - b. Poor maintenance.**

**INSPECTION OF NELSON BEND QUARRY ROCK WEIR
(Maintained by State of California)
September 2001**



Looking southwest at the growth and debris on the rock weir.



**Looking north from the approximate midway
point of the weir at the dense vegetation and debris.**

INSPECTION OF NELSON BEND QUARRY ROCK WEIR

**(Maintained by State of California)
September 2001**



Looking north from the southwest end of the rock weir.

**INSPECTION OF KNIGHTS LANDING OUTFALL STRUCTURE
(Maintained by State of California)
September 2001**

1. **Condition of outfall structure.**
 - a. **Good.**
2. **Condition of bulkheads.**
 - a. **Fair. The large vertical crack and displacement on the downstream side, left bank, does not appear to have enlarged. The crack is not accessible for measurement, but the overall width is estimated to be 1 inch.**
 - b. **The concrete construction joint between the left bulkhead and the outfall structure, upstream side, passes water when the Sacramento River is at high stage. Passage of water was first noticed in 1980.**
3. **Condition of the pipes.**
 - a. **Good.**
4. **Condition of the control gates, mechanisms, and flap gates.**
 - a. **Good.**
5. **Condition of electrical equipment.**
 - a. **Good.**
6. **Condition of the gauging house and equipment.**
 - a. **Good.**
7. **Condition of the log boom.**
 - a. **The log boom recently broke free, but the Sacramento Maintenance Facility Utility Workers were making repairs during the inspection.**
8. **Condition of fill from bulkheads to levee.**
 - a. **Good.**

INSPECTION OF KNIGHTS LANDING OUTFALL STRUCTURE
(Maintained by State of California)
September 2001

- 9. Accumulation of trash and debris around the structure or in the channel.**
 - a. None around structure.**
 - b. The debris has recently been removed but remains on the right bank upstream of the structure.**

- 10. Comments:**
 - a. Structure is inspected daily.**
 - b. The seepage through the structure should be monitored during high water stages.**
 - c. Sacramento Maintenance Facility performs a yearly pre-season inspection of the structure and its components by October 15.**
 - d. Remove the debris on the right bank upstream of the structure.**
 - e. Good maintenance.**

**INSPECTION OF KNIGHTS LANDING OUTFALL STRUCTURE
(Maintained by State of California)
September 2001**



Looking at the upstream side of structure from the right bank.



Looking at the downstream side of the structure from the right bank.

**INSPECTION OF KNIGHTS LANDING OUTFALL STRUCTURE
(Maintained by State of California)
September 2001**



There is a large vertical crack and displacement on the downstream side of structure.

**INSPECTION OF FREMONT WEIR
(Maintained by state of California)**

September 2001

- 1. Condition of concrete weir and stilling basin.**
 - a. Some cracks and spalling exist on the weir and in the stilling basin.**
- 2. Condition of concrete abutment.**
 - a. Good.**
 - b. The crack on the downstream side of the right (west) abutment, and the two cracks on the right abutment at Rattlesnake Island, have not enlarged.**
- 3. Condition of revetment.**
 - a. Good.**
- 4. Accumulation of trash and debris around the structure or in the channel.**
 - a. Minimal.**
- 5. Vegetation around the structure or in the channel.**
 - a. Minimal.**
 - b. Minimal.**
- 6. Condition of gauging house and equipment.**
 - a. Good.**
- 7. Comments:**
 - a. Monitor the cracks and spalling and repair as needed.**
 - b. Remove debris from the stilling basin prior to flood season.**
 - c. Good maintenance.**



View of weir and stilling basin from the north abutment.



Looking towards Rattlesnake Island.

**INSPECTION OF FREMONT WEIR
(Maintained by State of California)
September 2001**



Looking at spalling on the crown of the weir.



Looking northwest from the southern abutment.

**INSPECTION OF CACHE CREEK SETTLING BASIN WEIR
AND DRAINAGE STRUCTURE
(Maintained by State of California)
August 2001**

1. **Condition of concrete weir structure and stilling basin.**
 - a. **Good.**
2. **Condition of drainage structure.**
 - a. **Good.**
3. **Condition of concrete abutments and wingwalls.**
 - a. **Previously reported 1/4-inch crack, approximately 8 feet in length in the center of the south abutment has stabilized.**
 - b. **Previously reported 1/4-inch crack, approximately 4 feet in length in the center of the north abutment has stabilized**
 - c. **There are two (2) additional hairline cracks, approximately 4 feet in length in the center of the north abutment above the 1/4-inch crack. They appear stabile.**
4. **Condition of revetment.**
 - a. **Good.**
5. **Accumulation of trash and debris around the structures or in the channels.**
 - a. **None.**
6. **Vegetation around the structures or in the channel.**
 - a. **Minor.**
7. **Comments:**
 - a. **Good maintenance.**

**INSPECTION OF CACHE CREEK SETTLING BASIN WEIR
AND DRAINAGE STRUCTURE
(Maintained by State of California)
August 2001**



Looking north east at the weir and settling basin.



View of the drainage structure.

**AND DRAINAGE STRUCTURE
(Maintained by State of California)
August 2001**



View of the outlet for the drainage structure.

**INSPECTION OF SACRAMENTO WEIR
(Maintained by State of California)
August 2001**

1. **Condition of concrete weir section and stilling basin.**
 - a. **Good.**
 - b. **Minor debris accumulation in stilling basin.**
2. **Condition of concrete bulkheads.**
 - a. **Good.**
3. **Condition of the needle boards, batting and boots (hinges).**
 - a. **Good.**
4. **Condition of tripping mechanisms.**
 - a. **Good.**
5. **Condition of the metal stop logs, cables and clamps used to retain the needle boards.**
 - a. **Good.**
6. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **There is a minimal amount of trash and debris in the stilling basin and in the channel.**
7. **Vegetation around the structure or in the channel.**
 - a. **Minor Vegetation.**

INSPECTION OF SACRAMENTO WEIR (Cont'd)
(Maintained by State of California)
August 2001

8. Comments:

- a. A final pre-season operational inspection is scheduled for the week of October 15 by the Sacramento Maintenance Facility.**
- b. Remove the growth, trash, and debris from around the structure.**
- c. Good maintenance.**



Looking at the outlet side of weir from the north end.



Looking at the outlet side of weir from the south end.

**INSPECTION OF MAGPIE CREEK PUMPING PLANT
(Maintained by State of California)
September 2001**

- 1. Condition of main pump structure.**
 - a. Good.**
- 2. Condition of abutment and wingwalls.**
 - a. Good.**
- 3. Condition of the pumps and motors.**
 - a. Good.**
- 4. Condition of control gates, mechanisms, and flap gates.**
 - a. Good**
- 5. Condition of the electrical equipment.**
 - a. Good.**
- 6. Condition of the trashracks.**
 - a. Good.**
- 7. Accumulation of trash debris in the sump or in the channel.**
 - a. Minimal.**
- 8. Vegetation in the sump or in the inlet channel.**
 - a. None.**
- 9. Comments:**
 - a. Good maintenance.**

**INSPECTION OF MAGPIE CREEK PUMPING PLANT
(Maintained by State of California)
September 2001**



Looking at pumping plant, sump, and trashracks at inlet side on the landward side from the left bank levee of the Natomas East Main Drain.



Looking at the discharge end of structure on the waterward side from the left bank levee of the Natomas East Side Drain.

**INSPECTION OF AMERICAN RIVER PUMPING PLANT NO. 1
(Maintained by Sacramento County as
Howe Avenue Storm Drain D-05)
September 2001**

- 1. Condition of the main pump structure.**
 - a. Good.**
- 2. Condition of abutments and wingwalls.**
 - a. Good.**
- 3. Condition of pumps and motors.**
 - a. Good.**
- 4. Condition of gate controls, mechanisms and flap gates.**
 - a. Good.**
- 5. Condition of electrical equipment.**
 - a. Good.**
- 6. Condition of the trashracks.**
 - a. New automated trash racks are being constructed.**
- 7. Accumulation of trash and debris in the sump or around the structure.**
 - a. None.**
- 8. Vegetation in the sump or in the inlet channel.**
 - a. None.**

INSPECTION OF AMERICAN RIVER PUMPING PLANT # 1 (Cont.)

**(Maintained by Sacramento County as
Howe Ave. Storm Drain D-05)
September 2001**

9. Comments:

- a. Inspection and tests of all systems are conducted yearly.
1. Annual maintenance on system done in June and July.**
- b. Sacramento County is constructing an automated trash rack system at this site.**
- c. Outstanding maintenance.**

**Howe Avenue Storm Drain D-05)
September 2001**



Looking at pumping plant, sump and trashracks at inlet on the landward side of the right bank levee of the American River.



Looking at gate controls and gates at the discharge side of the pumping plant.

**INSPECTION OF AMERICAN RIVER PUMPING PLANT NO. 2
(Maintained by Sacramento County as
Willhaggin Storm Drain D-43)**

September 2001

- 1. Condition of the main pump structure.**
 - a. Good.**
- 2. Condition of abutments and wingwalls.**
 - a. There is a 3 5/8-inch deflection in the retaining wall next to the stairway on the west side of structure.**
- 3. Condition of pumps and motors.**
 - a. Good.**
- 4. Condition of control gates, mechanisms, and flap gates.**
 - a. Good.**
- 5. Condition of electrical equipment.**
 - a. Good.**
- 6. Condition of trashracks.**
 - a. Good.**
- 7. Accumulation of trash and debris in the upper and lower sumps.**
 - a. None.**
- 8. Vegetation in the upper and lower sumps.**
 - a. Minor growth.**

**INSPECTION OF AMERICAN RIVER PUMPING PLANT NO. 2 (Cont'd.)
(Maintained by Sacramento County as
Willhaggin Storm Drain D-43)
September 2001**

9. Comments:

- a. Inspections and tests of all systems are conducted yearly.**
 - 1. Annual maintenance done on 8/21-24/98.**
 - 2. Sump maintenance done 8/28-30/98.**

- b. There has been no measurable change in the 3 5/8-inch deflection in the western retaining wall since last reported in 1998.**

- c. Outstanding maintenance.**

**INSPECTION OF AMERICAN RIVER PUMPING PLANT NO. 2
(Maintained by Sacramento County as
Willhaggin Storm Drain D-43)
September 2001**



Looking at the trashracks on the intake side of the pumping plant.



Looking at the gate controls and flap gates on the discharge side of the pumping plant.

**INSPECTION OF AMERICAN RIVER PUMPING PLANT NO. 2
(Maintained by Sacramento County as
Willhaggin Storm Drain D-43)
September 2001**



Looking at the 3 5/8-inch deflection in the west retaining wall.

September 2001

- 1. Condition of inlet structure.**
 - a. Good.**
- 2. Condition of control gate mechanism.**
 - a. Good.**
- 3. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**
- 4. Vegetation around the structure.**
 - a. Minor growth around outlet.**
- 5. Comments:**
 - a. Monitor and remove growth around outlet as needed.**
 - b. Good maintenance.**

**INSPECTION OF ELK SLOUGH INLET STRUCTURE
(Maintained by Reclamation District No. 999)
September 2001**



View of the gate control mechanism box.



**View of the discharge side of inlet structure into Elk Slough.
The structure is under water.**

CHAPTER II

**FLOOD CONTROL STRUCTURES
INSPECTED ON THE SAN JOAQUIN
RIVER AND TRIBUTARIES**

2001

**INSPECTION OF MORMON SLOUGH PUMPING PLANT NO. 1
(Maintained by San Joaquin County)
September 2001**

1. **Condition of main pump structure.**
 - a. **Good.**
2. **Condition of pumps and motors.**
 - a. **Good.**
3. **Condition of control gates, mechanisms and flap gates.**
 - a. **Good.**
4. **Condition of electrical equipment.**
 - a. **Good.**
5. **Condition of trashracks.**
 - a. **Good.**
6. **Accumulation of trash and debris in the sump.**
 - a. **None.**
7. **Vegetation in the sump.**
 - a. **None.**
8. **Comments:**
 - a. **Good maintenance.**

**INSPECTION MORMON SLOUGH PUMPING PLANT NO. 1
(Maintained by San Joaquin County)
September 2001**



Looking at the trashracks on the intake side of the pumping plant.



**Looking at the flood wall, screw gate and
the outlet side of the pumping plant.**

INSPECTION OF MORMON SLOUGH PUMPING PLANT NO. 2
(Maintained by San Joaquin County)
September 2001

1. **Condition of main pump structure.**
 - a. **Good.**
2. **Condition of pumps and motors.**
 - a. **Good.**
3. **Condition of control gates, mechanisms and flap gates.**
 - a. **Good.**
4. **Condition of electrical equipment.**
 - a. **Good.**
5. **Condition of trashracks.**
 - a. **Good.**
6. **Accumulation of trash and debris in the sump.**
 - a. **None.**
7. **Vegetation in the sump.**
 - a. **Minimal.**
8. **Comments:**
 - a. **Good maintenance.**

**INSPECTION OF MORMON SLOUGH PUMPING NO. 2
(Maintained by San Joaquin County)
September 2001**



Looking at the inlet side of the pumping plant.



Looking at the outlet side of the pumping plant.

INSPECTION OF MORMON SLOUGH PUMPING PLANT NO. 3
(Maintained by San Joaquin County)
September 2001

1. **Condition of main pump structure.**
 - a. **Good.**
2. **Condition of pumps and motors.**
 - a. **Good.**
3. **Condition of control gates, mechanisms and flap gates.**
 - a. **Good.**
4. **Condition of electrical equipment.**
 - a. **Good.**
5. **Condition of trashracks.**
 - a. **Good.**
6. **Accumulation of trash and debris in the sump.**
 - a. **None.**
7. **Vegetation in the sump.**
 - a. **None.**
8. **Comments:**
 - a. **Good maintenance.**

**INSPECTION OF MORMON SLOUGH PUMPING PLANT NO. 3
(Maintained by San Joaquin County)
September 2001**



Looking at the inlet side of the pumping plant.



Looking at the flood wall, screw gate and outlet side of the pumping plant.

**INSPECTION OF DUCK CREEK DIVERSION
WEIR AND CONTROL STRUCTURE
(Maintained by San Joaquin County)
September 2001**

1. **Condition of concrete control structure.**
 - a. **Good.**
2. **Condition of abutments and wingwalls.**
 - a. **Good.**
3. **Condition of control gate and mechanism.**
 - a. **Good.**
4. **Condition of the concrete weir structure.**
 - a. **Good.**
5. **Condition of the revetment.**
 - a. **Good.**
6. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **Good.**
7. **Vegetation around the structure or in the channel.**
 - a. **Minimal.**
8. **Comments:**
 - a. **Good maintenance.**

**INSPECTION OF DUCK CREEK DIVERSION
WEIR AND CONTROL STRUCTURE
(Maintained by San Joaquin County)
September 2001**



Looking at the inlet side of control structure.



Looking at the outlet side of the structure.

**INSPECTION OF DUCK CREEK
WEIR AND CONTROL STRUCTURE
(Maintained by San Joaquin County)
September 2001**



Looking at the upstream side of diversion weir.



View of the crack on the downstream side of the weir at the left abutment.

**INSPECTION OF PARADISE DAM
(No Maintaining Agency)
September 2001**

- 1. Condition of the concrete rubble dam section.**
 - a. Good.**
- 2. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**
- 3. Vegetation around the structure and in the channel.**
 - a. There are small willow trees on the upstream side of the structure.**
- 4. Comments:**
 - a. Willow trees should be removed.**

**INSPECTION OF PARADISE DAM
(No Maintaining Agency)
September 2001**



Looking at the upstream side of dam.



Looking at the downstream side of dam.

**INSPECTION OF WETHERBEE LAKE PUMPING PLANT
AND NAVIGATION GATE
(Maintained by Reclamation District No. 2096)
September 2001**

1. **Condition of main pump structure.**
 - a. **Good.**
2. **Condition of the navigation gate structure.**
 - a. **Good.**
3. **Condition of the abutments and wingwalls.**
 - a. **Good, but there is a 3/4-inch separation in the joint between left retainer wall and wingwall. It has remained stable for several years.**
4. **Condition of pumps and motors.**
 - a. **Good.**
5. **Condition of flap gates.**
 - a. **Good.**
6. **Condition of electrical equipment.**
 - a. **Good.**
7. **Condition of the trashrack.**
 - a. **Good.**
8. **Condition of the gate hoist mechanism.**
 - a. **Good.**
9. **Condition of the revetment.**
 - a. **Good.**

**INSPECTION OF WETHERBEE LAKE PUMPING PLANT
AND NAVIGATION GATE (Cont'd.)
(Maintained by Reclamation District No. 2096)
September 2001**

- 10. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**

- 11. Comments:**
 - a. Good maintenance.**

**INSPECTION OF WETHERBEE LAKE PUMPING PLANT
AND NAVIGATION GATE
(Maintained by Reclamation District 2096)
September 2001**



Looking at the downstream side of the structure.



Looking at the upstream side of the structure.

**INSPECTION OF GOMES LAKE PUMPING PLANT
(Maintained by Turlock Irrigation District)
September 2001**

1. **Condition of main pump structure.**
 - a. **Good.**
2. **Condition of pumps and motors.**
 - a. **Good.**
3. **Condition of the switchboard house and the electrical equipment.**
 - a. **Good.**
4. **Condition of the control gates, mechanism and flap gates.**
 - a. **Good.**
5. **Condition of the trashracks.**
 - a. **Good.**
6. **Condition of the gauging house and equipment.**
 - a. **Good.**
7. **Condition of the revetment.**
 - a. **Good.**
8. **Accumulation of trash and debris around structure or in the channel.**
 - a. **Minimal.**
9. **Vegetation around the structure or in the channel.**
 - a. **None.**
10. **Comments:**
 - a. **Good maintenance.**

**INSPECTION OF GOMES LAKE PUMPING PLANT
(Maintained by Turlock Irrigation District)
September 2001**



Looking at the intake of the pumping plant.



Looking at the discharge side of the structure from the north side.

**INSPECTION OF RECLAMATION DISTRICT NO. 2063 PUMPING PLANT
(Maintained by Reclamation District No. 2063)
September 2001**

1. **Condition of main pump structure.**
 - a. **Good.**
2. **Condition of abutments and wingwalls.**
 - a. **Good.**
3. **Condition of pump and motor.**
 - a. **Although the pump is operational the overall appearance of the motor, pump and shed is extremely dirty.**
4. **Condition of control gate, mechanism and flap gate.**
 - a. **Good.**
5. **Condition of the trashracks.**
 - a. **Fair.**
6. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **Debris is covering the upper third of the trash rack.**
7. **Vegetation around the structure or in the outlet channel.**
 - a. **Trees at discharge end of structure should be removed.**
8. **Comments:**
 - a. **The pumps are tested prior to flood season by Turlock Irrigation District. The motor, pump and shed should be properly maintained.**
 - b. **Remove trees at discharge end of structure.**
 - c. **Fair maintenance.**

**INSPECTION OF RECLAMATION DISTRICT NO. 2063 PUMPING PLANT
(Maintained by Reclamation District No. 2063)
September 2001**



Looking at the trash racks and the structure.



Looking at the intake side of the structure.

**INSPECTION OF BLACK RASCAL CREEK DROP STRUCTURE
(Maintained by Merced Irrigation District for Merced County)
August 2001**

1. **Condition of concrete drop structure.**
 - a. **Good.**
2. **Condition of concrete abutments.**
 - a. **Good.**
 - b. **Separation of the left bank wall is stable.**
3. **Condition of revetment.**
 - a. **Good.**
4. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **None.**
5. **Vegetation around the structure or in the channel.**
 - a. **Minimal**
6. **Comments:**
 - a. **Good maintenance.**

**INSPECTION OF BLACK RASCAL CREEK DROP STRUCTURE
(Maintained by Merced Irrigation District for Merced County)
August 2001**



Looking upstream at the structure.



Looking at the upstream side structure.

**INSPECTION OF OWENS CREEK SIPHON STRUCTURE
(Maintained by Merced Irrigation District for Merced County)
August 2001**

1. **Condition of concrete siphon structure.**
 - a. **Good.**
2. **Condition of concrete abutments and wingwalls.**
 - a. **Good.**
 - b. **Separation of the left bank wall is stable.**
3. **Condition of revetment.**
 - a. **Good.**
4. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **None.**
5. **Vegetation around the structure or in the channel.**
 - a. **There is dense tule and weed growth in the channel immediately upstream and downstream of the structure.**
6. **Comments:**
 - a. **Remove weeds and tule growth.**
 - b. **Fair maintenance.**

**INSPECTION OF OWENS CREEK SIPHON STRUCTURE
(Maintained by Merced Irrigation District for Merced County)
August 2001**



Looking at the upstream side of the structure and the heavy tule growth.



Looking at the downstream side of the structure.

**INSPECTION OF ASH AND BERENDA SLOUGH
CONTROL STRUCTURES
(Maintained by Madera County F.C. & W.C.A.)
August 2001**

1. **Condition of concrete control structures.**
 - a. **Good.**
2. **Condition of concrete abutments and wingwalls.**
 - a. **Good.**
3. **Condition of stop logs and supports.**
 - a. **Good.**
4. **Condition of revetments.**
 - a. **Good.**
5. **Accumulation of trash and debris around the structures or in the channels.**
 - a. **None.**
6. **Vegetation around the control structures or in the channels.**
 - a. **Trees in the channel downstream of the Ash Slough Structure and near the right wingwall of the Berenda Slough Structure.**
7. **Comments:**
 - a. **Remove the trees from the channels and around the structures.**
 - b. **Good maintenance.**

**INSPECTION OF ASH AND BERENDA SLOUGH
CONTROL STRUCTURES
(Maintained by Madera County F.C. & W.C.A.)
August 2001**



Looking at the upstream side of Ash Slough Structure.



Looking at the downstream side of the Ash Slough Structure.

**INSPECTION OF ASH AND BERENDA SLOUGH
CONTROL STRUCTURES
(Maintained by Madera County F.C. & W.C.A.)
August 2001**



Looking at the upstream side of the Berenda Slough Structure.



Looking at the downstream side of the Berenda Slough Structure.

**INSPECTION OF FRESNO RIVER DIVERSION WEIR
(Maintained by Madera County F.C. & W.C.A.)
August 2001**

- 1. Condition of concrete weir structure, stilling basin, and velocity dissipators.**
 - a. Good.**
- 2. Condition of the diversion structure.**
 - a. Good.**
- 3. Condition of the concrete abutments and wingwalls.**
 - a. Good.**
- 4. Condition of control gate and mechanisms.**
 - a. Good.**
- 5. Condition of revetments.**
 - a. Good.**
- 6. Accumulation of trash and debris around the structures or in the channel.**
 - a. Good. There is a minor accumulation of debris on the structure.**
- 7. Vegetation around the structures or in the channel.**
 - a. Minor growth in channel, tules and willows upstream and downstream of structure.**
- 8. Condition of gauging house and equipment.**
 - a. Good.**
- 9. Comments:**
 - a. Good maintenance.**

**INSPECTION OF FRESNO RIVER DIVERSION WEIR
(Maintained by Madera County F.C. & W.C.A.)
August 2001**



Looking at the upstream side of the structure.



Looking at the downstream side of the structure.

**INSPECTION OF BEAR CREEK DIVERSION STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**

1. **Condition of concrete weir structure and stilling basin.**
 - a. **Good.**
2. **Condition of concrete abutments and wingwalls.**
 - a. **Good.**
3. **Condition of revetment.**
 - a. **Damage to left bank upstream of structure.**
4. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **None.**
5. **Vegetation around the structure or in the channel.**
 - a. **None.**
6. **Comments:**
 - a. **Repair left bank before next flood season.**
 - b. **Good maintenance.**

**INSPECTION OF BEAR CREEK DIVERSION STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**



Looking at the upstream side of the structure.



Looking at the downstream side of the structure.

**INSPECTION OF OWENS CREEK CONTROL STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**

1. **Condition of concrete control structure.**
 - a. **Good**
2. **Condition of abutments and wingwalls.**
 - a. **Good.**
3. **Condition of stop logs and supports.**
 - a. **Good.**
4. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **None.**
5. **Vegetation around the structure or in the channel.**
 - a. **None.**
6. **Comments:**
 - a. **This structure was in existence prior to the construction of the project and is a part of the Lower San Joaquin Levee District but is operated by Eastside Canal Company. The structure is showing some wear from aging but is still in good condition.**
 - b. **Good maintenance.**

**INSPECTION OF OWENS CREEK CONTROL STRUCTURE
(Maintained by the Lower San Joaquin Levee District)
August 2001**



Looking at the upstream side of the structure from the left bank.



Looking at the downstream side of the structure from the right bank.

**INSPECTION OF OWENS CREEK OVERFLOW STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**

- 1. Condition of the concrete overflow structure.**
 - a. Fair, the concrete apron on the discharge side is damaged.**
- 2. Condition of the abutments and wingwalls.**
 - a. Good.**
- 3. Condition of the control gates and mechanism.**
 - a. Good.**
- 4. Condition of the revetment.**
 - a. Poor on downstream edge of structure.**
- 5. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**
- 6. Vegetation around the structure or in the channel.**
 - a. None.**
- 7. Comments:**
 - a. Fair maintenance.**
 - b. Repair the concrete apron on the discharge side of the structure.**
 - c. Replace moved revetment at downstream edge of structure.**

**INSPECTION OF OWENS CREEK OVERFLOW STRUCTURE (UNLISTED)
(Maintained by Lower San Joaquin Levee District)
August 2001**



View of the two 72 inch slide gates at the intake side of the structure.



**View of the discharge side of the structure
where it empties into the Eastside Bypass.**

**INSPECTION OF MARIPOSA BYPASS CONTROL STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**

1. **Condition of concrete control structure.**
 - a. **Good.**
2. **Condition of abutments and wingwalls.**
 - a. **Good.**
3. **Condition of radial gate and mechanisms.**
 - a. **Good.**
4. **Condition of electrical equipment.**
 - a. **Good.**
5. **Condition of gate hoist equipment.**
 - a. **Good.**
6. **Condition of revetments.**
 - a. **Good.**
7. **Accumulations of trash and debris around the structure or in the channel.**
 - a. **None.**
8. **Vegetation around the structure or in the channel.**
 - a. **None.**
9. **Comments:**
 - a. **All the electrical equipment is tested prior to each flood season.**
 - b. **Good maintenance.**

**INSPECTION OF MARIPOSA BYPASS CONTROL STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**



Looking at the upstream side of the structure.



Looking at the downstream side of the structure.

**INSPECTION OF THE EASTSIDE BYPASS CONTROL STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**

- 1. Condition of concrete control structure.**
 - a. Good.**
- 2. Condition of abutments and wingwalls.**
 - a. Good.**
- 3. Condition of radial gate and mechanisms.**
 - a. Good.**
- 4. Condition of electrical equipment.**
 - a. Good.**
- 5. Condition of gate hoist equipment.**
 - a. Good.**
- 6. Condition of engine generator set.**
 - a. Good.**
- 7. Condition of floatwells and allied equipment.**
 - a. Good.**
- 8. Condition of revetment.**
 - a. Rock on the banks is in place but a large scour hole has developed downstream of gates.**
- 9. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**

INSPECTION OF EASTSIDE BYPASS CONTROL STRUCTURE (Cont'd.)
(Maintained by Lower San Joaquin Levee District)
August 2001

10. Vegetation around the structure or in the channel.

a. None.

11. Comments:

a. All the equipment is tested and serviced prior to flood season each year. This structure is well maintained and is in excellent condition.

b. Fill in scour hole.

c. Good maintenance.

**INSPECTION OF EASTSIDE BYPASS CONTROL STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**



Looking at the upstream side of the structure.



Looking at the downstream side of the structure.

**INSPECTION OF MARIPOSA BYPASS DROP STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**

- 1. Condition of concrete drop structure, stilling basin, and velocity dissipators.**
 - a. Good.**
- 2. Condition of concrete abutments and wingwalls.**
 - a. Left wingwall has 3/4-inch separation at the joint but otherwise it is in excellent condition.**
- 3. Condition of revetment.**
 - a. Good.**
- 4. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**
- 5. Vegetation around the structure or in the channel.**
 - a. None.**
- 6. Comments:**
 - a. Good maintenance.**

**INSPECTION OF MARIPOSA BYPASS DROP STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**



Looking at the upstream side of the structure.



Looking at the downstream side of the structure.

**INSPECTION OF SAN JOAQUIN RIVER STRUCTURE
AND SAND SLOUGH STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**

1. **Condition of San Joaquin River Structure.**
 - a. **Good.**
2. **Condition of the abutments, wingwalls, and bulkheads.**
 - a. **Good.**
3. **Condition of control gates and mechanisms.**
 - a. **Good.**
4. **Condition of the Sand Slough Structure (Parshall flume) and wingwalls.**
 - a. **Good.**
5. **Condition of the revetment.**
 - a. **Good.**
6. **Accumulation of trash or debris around structure or in the channel.**
 - a. **None.**
7. **Comments:**
 - a. **This structure is tested and serviced prior to each flood season.**
 - b. **Good maintenance.**

**INSPECTION OF SAN JOAQUIN RIVER STRUCTURE
AND SAND SLOUGH STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**



**Looking at the control gates and mechanisms
on the upstream side of the San Joaquin River Structure.**



Looking at the downstream side of the structure.

**INSPECTION OF SAN JOAQUIN RIVER STRUCTURE
AND SAND SLOUGH STRUCTURE
(Maintained by Lower San Joaquin River Levee District)
August 2001**



Looking at the Sand Slough Structure from the Washington St. bridge.

**INSPECTION OF FRESNO RIVER DRAINAGE STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**

- 1. Condition of concrete drainage structure.**
 - a. Good.**
- 2. Condition of abutments and wingwalls.**
 - a. Good.**
- 3. Condition of control gate, mechanism, and flap gate.**
 - a. The control mechanism is bent.**
- 4. Condition of revetment.**
 - a. Good.**
- 5. Accumulation of trash and debris around the structure or in the channel.**
 - a. Good.**
- 6. Vegetation around the structure or in the channel.**
 - a. None.**
- 7. Comments:**
 - a. The control mechanism for the gate needs to be straightened but otherwise this structure is in good condition.**

**INSPECTION OF FRESNO RIVER DRAINAGE STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**



Looking at the intake (upstream) side of the structure.



Looking at the discharge (downstream) side of the structure.

INSPECTION OF ASH SLOUGH DROP STRUCTURE NO. 1 (Downstream)
(Maintained by Lower San Joaquin Levee District)
August 2001

1. **Condition of concrete drop structure, stilling basin, and velocity dissipators.**
 - a. **Good.**
2. **Condition of concrete abutments and wingwalls.**
 - a. **Good.**
3. **Condition of revetment.**
 - a. **Good.**
4. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **None.**
5. **Vegetation around the structure or in the channel.**
 - a. **None.**
6. **Comments:**
 - a. **Good maintenance.**

**INSPECTION OF ASH SLOUGH DROP STRUCTURE NO. 1
(Maintained by Lower San Joaquin Levee District)
August 2001**



Looking at the downstream side of the structure.

**INSPECTION OF ASH SLOUGH DROP STRUCTURE NO. 2
(Maintained by Lower San Joaquin Levee District)
August 2001**

- 1. Condition of concrete drop structure, stilling basin, and velocity dissipators.**
 - a. Good.**
- 2. Condition of concrete abutments and wingwalls.**
 - a. Good.**
- 3. Condition of revetments.**
 - a. Good.**
- 4. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**
- 5. Vegetation around the structure or in the channel.**
 - a. None.**
- 6. Comments:**
 - a. Good maintenance.**

**INSPECTION OF ASH SLOUGH DROP STRUCTURE NO. 2
(Maintained by Lower San Joaquin Levee District)
August 2001**



Looking at the downstream side of the structure.

**INSPECTION OF ASH SLOUGH DROP STRUCTURE NO. 3
(Maintained by Lower San Joaquin Levee District)
August 2001**

1. **Condition of concrete drop structure, stilling basin and velocity dissipaters.**
 - a. **Good, except the velocity dissipaters are covered with sand.**
2. **Condition of concrete abutments and wingwalls.**
 - a. **Good.**
3. **Condition of revetment.**
 - a. **Good.**
4. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **None.**
5. **Vegetation around the structure or in the channel.**
 - a. **None.**
6. **Comments:**
 - a. **This structure is in good condition but needs to have the sand removed from the stilling basin.**
 - b. **Fair maintenance.**

**INSPECTION OF ASH SLOUGH DROP STRUCTURE NO. 3
(Maintained by Lower San Joaquin Levee District)
August 2001**



**Looking at the stilling basin and the
sand covered velocity dissipaters.**

**INSPECTION OF ASH SLOUGH DROP STRUCTURE NO. 4
(Maintained by Lower San Joaquin Levee District)
August 2001**

- 1. Condition of concrete drop structure, stilling basin, and velocity dissipaters.**
 - a. What can be seen is in good condition, but a seasonal sand dam is in place backing up water for irrigation purposes on the upstream side.**
- 2. Condition of concrete abutment wingwalls.**
 - a. Good.**
- 3. Condition of revetment.**
 - a. Good.**
- 4. Accumulation of trash and debris around the structure or in the channel.**
 - a. None.**
- 5. Vegetation around the structure or in the channel.**
 - a. Bamboo growing along right wingwall.**
- 6. Comments:**
 - a. The seasonal sand dam on the upstream side is for irrigation purposes and can be easily breached or washed out in the event of high water.**
 - b. Remove bamboo.**

**INSPECTION OF ASH SLOUGH DROP STRUCTURE NO. 4
(Maintained by Lower San Joaquin Levee District)
August 2001**



Looking at the downstream side of the drop structure.



Looking at the seasonal sand irrigation dam with two culverts installed.

INSPECTION OF EASTSIDE BYPASS DROP STRUCTURE NO. 1 (Upstream)
(Maintained by Lower San Joaquin Levee District)
August 2001

1. **Condition of concrete drop structure, stilling basin and velocity dissipators.**
 - a. **Good.**
2. **Condition of concrete abutments and wingwalls.**
 - a. **Good.**
3. **Condition of revetment.**
 - a. **Good.**
4. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **None.**
5. **Vegetation around the structure or in the channel.**
 - a. **None.**
6. **Comments:**
 - a. **Good maintenance.**

**INSPECTION OF EASTSIDE BYPASS DROP STRUCTURE NO. 1
(Maintained by Lower San Joaquin Levee District)
August 2001**



Looking north at the stilling basin and the velocity dissipaters.

**INSPECTION OF EASTSIDE BYPASS DROP STRUCTURE NO. 2 (Downstream)
(Maintained by Lower San Joaquin Levee District)
August 2001**

1. **Condition of concrete structure, stilling basin, and velocity dissipators.**
 - a. **Good.**
 - b. **It was noted last year that concrete spalling exists on the floor of the stilling basin. This was first noted in 1969.**
2. **Condition of concrete abutments and wingwalls.**
 - a. **Good.**
3. **Condition of revetment.**
 - a. **Good.**
4. **Accumulation of trash and debris around the structure or in the channel.**
 - a. **None.**
5. **Vegetation and debris around the structure or in the channel.**
 - a. **None.**
6. **Comments:**
 - a. **Good maintenance.**

**INSPECTION OF EASTSIDE DROP STRUCTURE NO. 2
(Maintained by Lower San Joaquin Levee District)
August 2001**



Looking at the downstream side of the structure.

**INSPECTION OF SAN JOAQUIN RIVER AND
CHOWCHILLA CANAL BYPASS CONTROL STRUCTURE
(Maintained by Lower San Joaquin Levee District)
August 2001**

1. **Condition of the San Joaquin River Control Structure.**
 - a. **Good.**
2. **Condition of the Chowchilla Canal Bypass Structure.**
 - a. **Good.**
3. **Condition of the abutments and wingwalls.**
 - a. **Good.**
4. **Condition of the radial gates and mechanisms.**
 - a. **Good.**
5. **Condition of the gate hoist equipment.**
 - a. **Good.**
6. **Condition of the engine generator set.**
 - a. **Good.**
7. **Condition of the floatwells and equipment.**
 - a. **Good.**
8. **Accumulation of trash and debris around the structures or in the channel.**
 - a. **None.**
9. **Vegetation around the structures or in the channel.**
 - a. **None.**

**INSPECTION OF SAN JOAQUIN RIVER AND
CHOWCHILLA CANAL BYPASS CONTROL STRUCTURE (Cont'd.)
(Maintained by Lower San Joaquin Levee District)
August 2001**

10. Comments:

- a. All equipment is tested and serviced by the U.S. Bureau of Reclamation prior to flood season.**
- b. Remove debris against San Joaquin River Control Structure trashrack.**
- c. Good maintenance.**

**INSPECTION OF SAN JOAQUIN RIVER AND
CHOWCHILLA CANAL BYPASS CONTROL STRUCTURES
(Maintained by Lower San Joaquin Levee District)
August 2001**



Looking at the upstream side of the Chowchilla Canal Bypass structure.



Looking downstream at the Chowchilla Canal Bypass.

**INSPECTION OF SAN JOAQUIN RIVER AND
CHOWCHILLA CANAL BYPASS CONTROL STRUCTURE (Cont'd.)
(Maintained by Lower San Joaquin Levee District)
August 2001**



Looking at downstream side of the San Joaquin River Control Structure.



Looking at the upstream side of the San Joaquin River Control Structure.