

**State of California  
The Resources Agency  
DEPARTMENT OF WATER RESOURCES  
DIVISION OF FLOOD MANAGEMENT**



**2007  
PROJECT  
STRUCTURE REPORT**

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

**Prepared By  
The Flood Project Integrity & Inspection Branch**

**STATE OF CALIFORNIA**  
**Arnold Schwarzenegger, Governor**

**THE RESOURCES AGENCY**  
**Mike Chrisman, Secretary**

**DEPARTMENT OF WATER RESOURCES**  
**Lester A. Snow, Director**

**DIVISION OF FLOOD MANAGEMENT**  
**Rod May, Chief**

**This report was prepared  
under the direction of**

**Jeremy Arrich, Chief .....Flood Project Integrity & Inspection Branch**  
**Jim Eckman, Section Chief .....Flood Inspection Section B**

**By**

**Richard Willoughby ..... Water Resources Engineering Tech II**  
**Herman Phillips ..... Water Resources Engineering Associate**  
**Clay Thomas ..... Water Resources Engineering Tech II**  
**Robert Duffey ..... Water Resources Engineering Tech II**  
**Mark Soto ..... Water Resources Engineering Tech II**  
**John Williamson ..... Water Resources Engineering Tech II**  
**Jon Yego ..... Water Resources Engineer**

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## **INTRODUCTION**

The Sacramento and San Joaquin River Flood Control System is comprised of levees, bypasses and structures constructed on the rivers and tributaries throughout the Central Valley. The structures are a critical part of this system and are made up of fixed crest diversion weirs, controllable diversion structures, outfall structures, drop structures, and interior drainage pumping plants. This report reviews the maintenance of these facilities.

### **History of Report**

The maintenance effort expended on these structures has been the subject of an annual report dating back to 1959. 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 structures. The State of California makes periodic inspections 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 Division of Flood Management, Flood Operations Branch.

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

# **CHAPTER I**

## **FLOOD CONTROL STRUCTURES INSPECTED ON THE SACRAMENTO RIVER AND TRIBUTARIES**

**2007**

**NORTH FORK FEATHER RIVER  
DIVERSION STRUCTURE  
MAINTAINED BY PLUMAS COUNTY**

1. **Condition of concrete diversion structure.**
  - a. **Acceptable.**
2. **Condition of the gauging house and equipment.**
  - a. **Plumas County has discontinued use of the gauging house due to vandalism.**
3. **Condition of the steel trash racks.**
  - a. **Acceptable.**
4. **Condition of debris deflection structure.**
  - a. **Acceptable.**
5. **Condition of the revetments.**
  - a. **Acceptable.**
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 United States Army Corps of Engineers contacts the county periodically to schedule conduit inspections. No contact has been made at the time of this inspection.**
9. **Condition of the discharge structure.**
  - a. **Acceptable.**

**NORTH FORK FEATHER RIVER  
DIVERSION STRUCTURE  
MAINTAINED BY PLUMAS COUNTY**

**10. Comments:**

- a. Acceptable maintenance.**

**NOTE: Routinely, one of the three diversion structure conduits is jointly inspected each year with the Corps of Engineers and Plumas County.**

**NORTH FORK FEATHER RIVER  
DIVERSION STRUCTURE  
MAINTAINED BY PLUMAS COUNTY**



**The upstream side of the diversion structure at the inlet.**

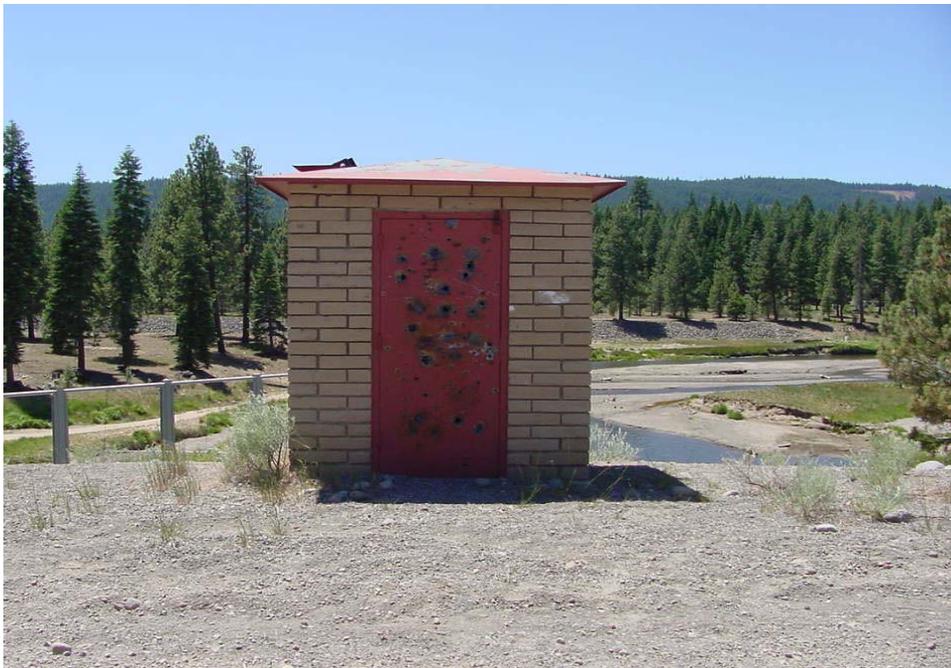


**Minimal amount of debris blocking the structure inlet.**

**NORTH FORK FEATHER RIVER  
DIVERSION STRUCTURE  
MAINTAINED BY PLUMAS COUNTY**



**The outlet works from the top of the dam.**



**Use of the gauging house has been discontinued  
by Plumas County due to continued vandalism.**

**NORTH FORK FEATHER RIVER DIVERSION CHANNEL  
DROP STRUCTURES 1 through 7  
Maintained by Plumas County**

1. **Condition of grouted rock revetment drop structures.**
  - a. **Acceptable.**
2. **Condition of channel banks upstream and downstream of the drop structures.**
  - a. **Acceptable.**
3. **Accumulation of trash and debris around the structures or in the channel.**
  - a. **None.**
4. **Vegetation around the structures, the channel banks or in the channel.**
  - a. **Minimal growth exists in the channel.**
5. **Comments:**
  - a. **Control vegetation in the channel.**
  - b. **Acceptable maintenance.**

**NORTH FORK FEATHER RIVER DIVERSION CHANNEL  
DROP STRUCTURES 1 through 7  
Maintained by Plumas County**



**View of Drop Structure No. 1 from the left bank.  
Typical of all drop structures.**



**Looking north from the Hwy 36 bridge at drop  
structures 3 through 7, note vegetation in the channel.**

**CLOVER CREEK DIVERSION STRUCTURE**  
Maintained by  
Lake County Flood Control and Water Conservation District  
Need a Lake County key

1. **Condition of concrete weir structure.**
  - a. **Acceptable.**
2. **Condition of the diversion structure and wing walls.**
  - a. **Acceptable.**
3. **Condition of the bulkhead.**
  - a. **Acceptable.**
4. **Condition of the control gates and mechanism.**
  - a. **Acceptable.**
5. **Accumulation of trash and debris around the structures or in the channel.**
  - a. **Gravel has accumulated around the outlet pipes reducing the designed carrying capacity of the structure.**
  - b. **Some gravel and rock needs to be removed on the upstream side.**
6. **Vegetation around the structures or in the channel.**
  - a. **A lot of vegetation upstream from the gates needs to be cleared.**
  - b. **There is dense vegetation in the creek channel, 30 feet downstream of the structure.**
7. **Comments:**
  - a. **Remove the gravel buildup at the outlet.**
  - b. **Remove accumulated rock, dirt, boulders and gravel upstream of weir.**
  - c. **Remove the vegetation.**
  - d. **Unacceptable maintenance.**

**CLOVER CREEK DIVERSION STRUCTURE**  
Maintained by Lake County Flood Control and Water Conservation District



**View of the diversion structure gates at the intake.**



**Walkway and control gate mechanisms.**

**CLOVER CREEK DIVERSION STRUCTURE**  
Maintained by Lake County Flood Control and Water Conservation District



**View of the structure outlet.  
Gravel buildup has reduced flow.**



**View of the concrete weir downstream  
of the diversion structure in the bypass channel.**

**HIGHLAND CANAL DIVERSION WEIR  
AND DRAINAGE STRUCTURE**  
Maintained by State of California  
Sutter Maintenance Yard  
Need Sutter Yard keys or PG&E

1. **Condition of concrete weir structure and stilling basin.**
  - a. **Acceptable.**
2. **Condition of drainage structure.**
  - a. **Acceptable.**
3. **Condition of the concrete abutments and wing walls.**
  - a. **There is a displacement between both wing walls and the structure, 2 inches on left wing wall and 2½ inches on the right wing wall. Displacement has been stable for at least 7 years.**
4. **Condition of the revetment.**
  - a. **Acceptable.**
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. **Moderate.**
7. **Comments:**
  - a. **Minimally Acceptable maintenance**

**HIGHLAND CANAL DIVERSION WEIR  
AND DRAINAGE STRUCTURE**  
Maintained by State of California  
Sutter Maintenance Yard



**The concrete weir and diversion pipe intake.**



**View of the outlet pipes and channel.**

**BIG CHICO CREEK  
DIVERSION STRUCTURE  
Maintained by Butte County**

1. **Condition of concrete control structure.**
  - a. **Acceptable.**
2. **Condition of bulkheads.**
  - a. **Acceptable.**
3. **Condition of gate controls and mechanisms.**
  - a. **Acceptable.**
  - b. **Butte Co. tests the gates prior to flood season.**
4. **Condition of revetment.**
  - a. **Acceptable.**
5. **Accumulation of trash and debris around the structure in the channel.**
  - a. **None.**
6. **Vegetation around structure and in the channel.**
  - a. **None.**
7. **Comments:**
  - a. **Contact DWR inspector prior to gate test.**
  - b. **Acceptable maintenance.**

**BIG CHICO CREEK  
DIVERSION STRUCTURE  
Maintained by Butte County**



**View of the upstream side of the structure.**



**Downstream at discharge end of structure from the right bank.**

**LINDO CHANNEL DIVERSION WEIR**  
**Maintained by Butte County**

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. The separations appear to be stable.**
2. **Condition of concrete abutments and wing walls.**
  - a. **Acceptable.**
3. **Condition of revetment.**
  - a. **Acceptable.**
4. **Accumulation of trash and debris around the structure or in the channel.**
  - a. **None.**
5. **Vegetation around structure or in the channel.**
  - a. **None.**
6. **Condition of gauging house and equipment.**
  - a. **Unacceptable. The gauging house is non-functional.**
7. **Comments:**
  - a. **Repair or replace the gauging house.**
  - b. **Minimally Acceptable maintenance.**

**LINDO CHANNEL DIVERSION WEIR**  
**Maintained by Butte County**



**Upstream side of the structure from the left bank.**



**The velocity dissipaters on the downstream side of structure from the left bank.**

**LINDO CHANNEL CONTROL STRUCTURE**  
**Maintained by Butte County**

1. **Conditions of concrete control structure.**
  - a. **Acceptable.**
2. **Condition of bulkheads.**
  - a. **There is a ½ inch separation in the joint between the south end bulkhead and the structure. This joint separation is stable.**
3. **Condition of control gates and mechanisms.**
  - a. **Acceptable.**
4. **Condition of revetment.**
  - a. **Unacceptable. The downstream rock and gunite skirt is severely damaged but appears to be stable.**
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 County will test the control gates prior to flood season.**
  - b. **Repair the rock and gunite skirt downstream of structure.**
  - c. **Minimally Acceptable maintenance.**

**LINDO CHANNEL CONTROL STRUCTURE**  
Maintained by Butte County



**View of the upstream side of structure.**



**View of the downstream side of structure.**

# **LITTLE CHICO CREEK CONTROL AND WEIR STRUCTURES**

**Maintained by State of California**

**Sutter Maintenance Yard**

- 1. Condition of concrete control structure.**
  - a. Acceptable.**
- 2. Condition of bulkheads and wing walls of the control structure.**
  - a. Previously reported separations and displacements are stable.**
- 3. Condition of concrete weir, stilling basin, and velocity dissipaters.**
  - a. Minor cracks in the weir and minor spalling of concrete on the weir invert.**
- 4. Condition of concrete bulkheads of the weir.**
  - a. Acceptable.**
- 5. Condition of bulkheads and fill between the control structure and the weir.**
  - a. Acceptable.**
- 6. Condition of the revetments.**
  - a. Acceptable.**
- 7. Condition of the gauging station and equipment.**
  - a. Acceptable.**
- 9. Accumulation of trash and debris around the structures or in the channel.**
  - a. Minimal debris in the stilling basin.**
- 10. Vegetation around the control structure, the weir, or in the channel.**
  - a. Moderate growth upstream and downstream of the weir.**

**LITTLE CHICO CREEK CONTROL AND WEIR STRUCTURES**  
**Maintained by State of California**  
**Sutter Maintenance Yard**

**11. Comments:**

- a. Previously reported undermining of the structure has been repaired.**
- b. Continue to monitor joint separation between the control structure and the abutments and repair as needed.**
- c. Sutter Maintenance Yard will remove vegetation upstream and downstream of the weir prior to flood season.**
- d. Remove debris from the stilling basin.**
- e. Acceptable maintenance.**

**LITTLE CHICO CREEK CONTROL AND WEIR STRUCTURES**  
Maintained by State of California  
Sutter Maintenance Yard



**View of the upstream side of the control structure and gauge.**



**View of the downstream side of the control structure.**

**LITTLE CHICO CREEK CONTROL AND WEIR STRUCTURES**  
Maintained by State of California  
Sutter Maintenance Yard



**The weir and velocity dissipaters.**

**MOULTON WEIR**  
**Maintained by State of California**  
**Sutter Maintenance Yard**

1. **Condition of concrete weir structure and stilling basin.**
  - a. **Acceptable.**
2. **Condition of concrete abutment and wing walls.**
  - a. **Acceptable.**
3. **Condition of revetments.**
  - a. **Acceptable.**
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. **Acceptable.**
7. **Comments:**
  - a. **Acceptable maintenance.**

**MOULTON WEIR**  
Maintained by State of California  
Sutter Maintenance Yard



**The weir and stilling basin from the top of the south abutment.**



**View of the gauging house directly upstream of the weir.**

**COLUSA WEIR**  
**Maintained by State of California**  
**Sutter Maintenance Yard**

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

**COLUSA WEIR**  
**Maintained by State of California**  
**Sutter Maintenance Yard**



**The upstream side of weir from the south levee.**



**View of the gauging house.**  
**Sacramento River is in the background.**

**TISDALE WEIR**  
**Maintained by State of California**  
**Sutter Maintenance Yard**

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

**TISDALE WEIR**  
**Maintained by State of California**  
**Sutter Maintenance Yard**



**Downstream side of the weir from the south end.**



**Upstream side of the weir from the south end.**

**BUTTE SLOUGH OUTFALL STRUCTURE**  
**Maintained by State of California**  
**Sutter Maintenance Yard**

1. **Condition of walkway and supports.**
  - a. **Acceptable.**
2. **Condition of pipes.**
  - a. **Acceptable.**
3. **Condition of the control gates, mechanisms and flap gates.**
  - a. **Acceptable.**
4. **Condition of log boom.**
  - a. **Acceptable.**
5. **Condition of gauging house and equipment.**
  - a. **Acceptable.**
6. **Condition of revetment.**
  - a. **Acceptable.**
7. **Accumulation of trash and debris around the structure or in the channel.**
  - a. **Minimal debris around the structure.**
8. **Comments:**
  - a. **Sutter Maintenance Yard reports that all equipment is in Acceptable working order.**
  - b. **Acceptable Maintenance.**

**BUTTE SLOUGH OUTFALL STRUCTURE**  
Maintained by State of California  
Sutter Maintenance Yard



**The intake side of the structure.**



**View of the outlet channel and the gauge house.**

**BUTTE SLOUGH DRAINAGE STRUCTURE**  
Maintained by State of California  
Sutter Maintenance Yard

1. **Condition of the corrugated metal pipe (CMP) drainage structure.**
  - a. **Acceptable.**
2. **Condition of the control gate, mechanisms, and flap gates.**
  - a. **Acceptable**
3. **Condition of the revetment.**
  - a. **Acceptable.**
4. **Accumulation of trash and debris around the inlet, in the pipe or in the channel.**
  - a. **Minimal.**
5. **Vegetation around the structure or in the channel.**
  - a. **The vegetation immediately around the in-take needs sprayed. Growth is so dense that discharge end of structure cannot be seen.**
6. **Comments:**
  - a. **Remove vegetation from discharge end of structure. If growth is not removed, the drainage structure could become non-functional.**
  - b. **Minimally Acceptable maintenance.**

**BUTTE SLOUGH DRAINAGE STRUCTURE**  
Maintained by State of California  
Sutter Maintenance Yard



**Partial CMP stand pipe protects the inlet.**



**View of the dense vegetation at the outlet.  
Outlet pipes are not visible.**

**WADSWORTH CANAL WEIR NO.4**  
**Maintained by State of California**  
**Sutter Maintenance Yard**

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

**WADSWORTH CANAL WEIR NO.4**  
Maintained by State of California  
Sutter Maintenance Yard



**Upstream side of structure from the left bank levee.**



**View of the downstream side of structure.**

**SUTTER BYPASS WEIR NO. 2**  
**Maintained by State of California**  
**Sutter Maintenance Yard**

1. **Condition of concrete weir structure.**
  - a. **Acceptable.**
2. **Condition of concrete abutments.**
  - a. **Acceptable.**
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. **Acceptable maintenance.**

**SUTTER BYPASS WEIR NO. 2**  
Maintained by State of California  
Sutter Maintenance Yard



**Upstream side of the structure.**



**Downstream side of the structure**

**NELSON BEND ROCK QUARRY WEIR**  
**Maintained by State of California**  
**Sutter Maintenance Yard**  
**Need a key or combination to access**

1. **Condition of quarry rock weir section.**
  - a. **Acceptable.**
2. **Condition of revetments.**
  - a. **Acceptable.**
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. **Sutter Maintenance Yard had the CCC's hand remove most of the large material and has been spraying the Weir.**
  - b. **Maintenance has improved.**
  - c. **Photo # 1 N 38.89547 W 121.61687**  
**Photo # 2 N 38.88740 W 121.61541**

**NELSON BEND ROCK QUARRY WEIR**  
Maintained by State of California  
Sutter Maintenance Yard



**View of the weir from the north/east end.**



**View of the weir from the south/west end.**

# **KNIGHTS LANDING OUTFALL STRUCTURE**

**Maintained by State of California**

**Sacramento Maintenance**

- 1. Condition of outfall structure.**
  - a. Acceptable.**
- 2. Condition of bulkheads.**
  - a. Minimally Acceptable. The large vertical crack and displacement on the downstream side, left bank, has not changed in several years. 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.**
  - c. Horizontal crack on the upstream left bulkhead.**
- 3. Condition of the pipes.**
  - a. Acceptable.**
- 4. Condition of the control gates, mechanisms, and flap gates.**
  - a. Acceptable.**
- 5. Condition of electrical equipment.**
  - a. Acceptable.**
- 6. Condition of the gauging house and equipment.**
  - a. Acceptable.**
- 7. Condition of the log boom.**
  - a. Acceptable.**
- 8. Condition of fill from bulkheads to levee.**
  - a. Acceptable.**

## **KNIGHTS LANDING OUTFALL STRUCTURE**

**Maintained by State of California**

**Sacramento Maintenance Yard**

9. **Accumulation of trash and debris around the structure or in the channel.**
  - a. **Minimal.**
10. **Comments:**
  - a. **Structure is inspected and maintained 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.**
  - c. **Clear vegetation on and around log boom.**
  - e. **Acceptable maintenance.**
11. a. **Center of gates N 38.79950, W 121.72501**

**KNIGHTS LANDING OUTFALL STRUCTURE**  
Maintained by State of California  
Sacramento Maintenance Yard



**Upstream side of structure from the left bank.**



**Downstream side of the structure from the left bank.**

**FREMONT WEIR**  
**Maintained by State of California**  
**Sacramento Maintenance Yard**

1. **Condition of concrete weir and stilling basin.**
  - a. **Some cracks and spalling exist on the weir and in the stilling basin as previously reported.**
2. **Condition of concrete abutment.**
  - a. **Acceptable.**
  - b. **The crack on the downstream side of the right (south) abutment, and the two cracks on the right abutment at Rattlesnake Island, have not enlarged.**
  - c. **North abutment has large cracks on east side.**
3. **Condition of revetment.**
  - a. **Acceptable.**
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. Upstream side has been cleared of most vegetation**
6. **Condition of gauging house and equipment.**
  - a. **Acceptable.**
7. **Comments:**
  - a. **Monitor the cracks and spalling and repair as needed.**
  - b. **Remove debris from the stilling basin prior to flood season.**
  - c. **Acceptable maintenance.**
8. a. **West side N 38.75907, W 121.66541  
Fish Ladder N 38.76424, W 121.64689  
East side N 38.76501, W 121.63543**

**FREMONT WEIR**  
**Maintained by State of California**  
**Sacramento Maintenance Yard**



**View of the weir and stilling basin from the south abutment.**



**View of the weir, looking east from fish ladder**

**FREMONT WEIR**  
**Maintained by State of California**  
**Sacramento Maintenance Yard**



**View of the weir and stilling basin from the north abutment.**

**CACHE CREEK SETTLING BASIN WEIR  
AND DRAINAGE STRUCTURE**

**Maintained by State of California  
Sacramento Maintenance Yard  
Sacramento Maintenance Keys**

1. **Condition of concrete weir structure and stilling basin.**
  - a. **Acceptable.**
2. **Condition of drainage structure.**
  - a. **Acceptable.**
3. **Condition of concrete abutments and wing walls.**
  - a. **Acceptable. Walls have been patched do to target practice**
4. **Condition of revetment.**
  - a. **Acceptable.**
5. **Accumulation of trash and debris around the structures or in the channels.**
  - a. **Debris has not yet been cleared from around the drainage structure.**
6. **Vegetation around the structures or in the channel.**
  - a. **None.**
7. **Comments:**
  - a. **Remove the accumulated debris around the drainage structure.**
  - b. **Acceptable maintenance.**
8.
  - a. **Center N 38.68457, W 121. 67326  
Intake structure gates on levee  
N 38.67844, W 121.67294**

**CACHE CREEK SETTLING BASIN WEIR  
AND DRAINAGE STRUCTURE**  
Maintained by State of California  
Sacramento Maintenance Yard



**View of the weir and stilling basin.**



**View of the drainage structure located in the southwest  
corner of the Cache Creek Settling Basin.**

**CACHE CREEK SETTLING BASIN WEIR  
AND DRAINAGE STRUCTURE**  
Maintained by State of California  
Sacramento Maintenance Yard



**View of the outlet for the drainage structure.**

**SACRAMENTO WEIR**  
**Maintained by State of California**  
**Sacramento Maintenance Yard**  
**Sacramento Maintenance Keys**

1. **Condition of concrete weir section and stilling basin.**
  - a. **Acceptable.**
2. **Condition of concrete bulkheads.**
  - a. **Acceptable.**
3. **Condition of the needle boards, batting and boots (hinges).**
  - a. **Acceptable.**
4. **Condition of tripping mechanisms.**
  - a. **Acceptable.**
5. **Condition of the metal stop logs, cables and clamps used to retain the needle boards.**
  - a. **Acceptable.**
6. **Accumulation of trash and debris around the structure or in the channel.**
  - a. **None.**
7. **Vegetation around the structure or in the channel.**
  - a. **Minimal.**
8. **Comments:**
  - a. **Acceptable maintenance. Sacramento Maintenance does a complete inspection before the season and does all needle repairs at this time.**
9.
  - a. **North side N 38.60718, W 121.56005  
Center N 38.60466, W 121.55733  
South side N 38.60281, W 121.55577**

**SACRAMENTO WEIR**  
Maintained by State of California  
Sacramento Maintenance Yard



**View of the downstream side of the weir and stilling basin.**



**Looking north at the upstream side of the weir.**



**ELK SLOUGH INLET STRUCTURE**  
**Maintained by Reclamation District No. 999**

1. **Condition of inlet structure.**
  - a. **Acceptable.**
2. **Condition of control gate mechanism.**
  - a. **Acceptable.**
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. **Acceptable maintenance.**

**ELK SLOUGH INLET STRUCTURE**  
**Maintained by Reclamation District No. 999**



**View of the gate control mechanism box.**



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

## **CHAPTER II**

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

**2007**

**DUCK CREEK DIVERSION WEIR  
AND CONTROL STRUCTURE**  
Maintained by San Joaquin County

1. **Condition of concrete control structure.**
  - a. **Acceptable.**
2. **Condition of abutments and wing walls.**
  - a. **Acceptable.**
3. **Condition of control gate and mechanism.**
  - a. **Acceptable.**
4. **Condition of the concrete weir structure.**
  - a. **Acceptable.**
5. **Condition of the revetment.**
  - a. **Acceptable.**
6. **Accumulation of trash and debris around the structure or in the channel.**
  - a. **Acceptable.**
7. **Vegetation around the structure or in the channel.**
  - a. **Small trees growing in the channel.**
8. **Comments:**
  - a. **Remove vegetation.**
  - b. **Acceptable maintenance.**

**DUCK CREEK DIVERSION WEIR  
AND CONTROL STRUCTURE**  
Maintained by San Joaquin County



**Looking east at the weir from the  
Corps of Engineers gauging house.**



**View of the intake side of the  
control structure and screw gate.**

**PARADISE DAM**  
**No Maintaining Agency**

1. **Condition of the concrete rubble dam section.**
  - a. **Acceptable.**
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. **The willow trees along the upstream side of the structure are 12 to 15 feet tall and could alter the proper design function of the dam.**
4. **Comments:**
  - a. **Willow trees should be removed.**
  - b. **Maintenance responsibilities need to be addressed and determined.**

**PARADISE DAM**  
**No Maintaining Agency**



**Looking south at the upstream side of the dam.  
Note the willow growth in front of the structure.**



**Looking southeast at the downstream side of the structure.  
The San Joaquin river is in the background.**

**BLACK RASCAL CREEK DROP STRUCTURE**  
Maintained by  
Merced Irrigation District for Merced County

1. Condition of concrete drop structure.
  - a. Acceptable.
  
2. Condition of concrete abutments.
  - a. Acceptable.
  - b. Separation of the left bank wall is stable.
  - c. Missing fence wire on top of structure wall left bank.
3. Condition of revetment.
  - a. Acceptable.
  
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. Moderate growth in the channel, upstream of the structure.
  - b. There is over growth of bamboo on the right bank downstream side of the structure.
  
6. Comments:
  - a. Remove vegetation upstream of the structure.
  - b. Replace the fence wire on left bank top of structure.
  
7. Location:
  - a. **G.P.S. 37.31767 -120.34571**

**BLACK RASCAL CREEK DROP STRUCTURE**  
Maintained by  
Merced Irrigation District for Merced County



**Left bank abutment missing chain link fence**



**Orondo growing around structure right bank downstream side**

**BLACK RASCAL CREEK DROP STRUCTURE**  
Maintained by  
Merced Irrigation District for Merced County



**The upstream side of the structure.**



**The downstream side of the structure.**

**OWENS CREEK SIPHON STRUCTURE**  
Maintained by  
Merced Irrigation District for Merced County

1. **Condition of concrete siphon structure.**
  - a. **Acceptable.**
2. **Condition of concrete abutments and wing walls.**
  - a. **Acceptable.**
  - b. **Separation of the left bank wall is stable.**
3. **Condition of revetment.**
  - a. **Acceptable.**
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. Inspection is limited due to excessive vegetation.**
  - a. **Minimally Acceptable maintenance.**

**OWENS CREEK SIPHON STRUCTURE**  
Maintained by  
Merced Irrigation District for Merced County



**The upstream side of the structure.**



**The downstream side of the structure.**

**ASH AND BERENDA SLOUGH CONTROL STRUCTURE**  
**(Bifurcation)**  
**Maintained by Madera County F.C. & W.C.A.**

1. **Condition of concrete control structures.**
  - a. **Acceptable.**
2. **Condition of concrete abutments and wing walls.**
  - a. **Acceptable.**
3. **Condition of stop logs and supports.**
  - a. **Acceptable.**
4. **Condition of revetments.**
  - a. **Acceptable.**
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. **Moderate vegetation in the channel downstream of the Ash Slough, there is a tree growing against the concrete abutment downstream left bank of channel.**
7. **Comments:**
  - a. **Remove the vegetation from the channel and around the structure.**
  - a. **The slopes at the structure of Berenda Slough has been burned prior to**
  - b. **my inspection.**
8. **Location:**

**G.P.S.**  
**37.15865**  
**120.1245**

**ASH AND BERENDA SLOUGH CONTROL STRUCTURE**  
Maintained by Madera County F.C. & W.C.A.



**The upstream side of the Berenda structure**



**The downstream side of the Berenda structure**

**ASH AND BERENDA SLOUGH CONTROL STRUCTURE**  
Maintained by Madera County F.C. & W.C.A.



**The upstream side of the Ash structure.**



**The downstream side of the Ash structure.  
Note the dense vegetation.**

**FRESNO RIVER DIVERSION WEIR**  
**Maintained by Madera County F.C. & W.C.A.**

1. **Condition of concrete weir structure, stilling basin, and velocity dissipaters.**
  - a. **Acceptable.**
2. **Condition of the diversion structure.**
  - a. **Acceptable.**
3. **Condition of the concrete abutments and wing walls.**
  - a. **Acceptable.**
4. **Condition of control gate and mechanisms.**
  - a. **Acceptable.**
5. **Condition of revetments.**
  - a. **Acceptable.**
6. **Accumulation of trash and debris around the structures or in the channel.**
  - a. **None.**
7. **Vegetation around the structures or in the channel.**
  - a. **Moderate growth in channel and around the structure.**
8. **Condition of gauging house and equipment.**
  - a. **Acceptable.**
9. **Comments:**
  - a. **Remove the growth from the structure and channel.**
  - b. **Acceptable maintenance.**
9. **Location:**
  - a. **G.P.S.**  
**36.96846**  
**120.25552**

**FRESNO RIVER DIVERSION WEIR**  
Maintained by Madera County F.C. & W.C.A.



**View of the velocity dissipaters, stilling basin, gauging house in back ground and weir from unit # 6 looking north.**



**Looking south at the diversion weir from unit# 5.**

**BEAR CREEK DIVERSION STRUCTURE**  
**Maintained by Lower San Joaquin Levee District**

1. **Condition of concrete weir structure and stilling basin.**
  - a. **Acceptable.**
2. **Condition of concrete abutments and wing walls.**
  - a. **Acceptable.**
  - b. **small cracks on left wing wall**
3. **Condition of revetment.**
  - a. **Acceptable.**
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. **Monitor and repair revetment as needed.**
  - b. **Acceptable maintenance.**

**BEAR CREEK DIVERSION STRUCTURE**  
Maintained by Lower San Joaquin Levee District



**The upstream side of the structure.**



**Crack on left wing wall.**

**OWENS CREEK CONTROL STRUCTURE**  
**Maintained by Lower San Joaquin Levee District**

1. **Condition of concrete control structure.**
  - a. **Acceptable.**
2. **Condition of abutments and wing walls.**
  - a. **The left wing wall has several cracks. District has tried to repair the cracks, but the cracks have gotten larger. The right wall is has several cracks as well.**
3. **Condition of stop logs and supports.**
  - a. **Acceptable.**
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. **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.**
  - b. **Monitor and repair the cracks in the abutments as needed.**
  - c. **Minimally Acceptable maintenance.**
  - d. **Wooden bridge crossing has new timber, replaced by L.S.J.L.D.**

**OWENS CREEK CONTROL STRUCTURE**  
Maintained by Lower San Joaquin Levee District



**The upstream side of the structure.**



**The downstream side of the structure.**

**OWENS CREEK CONTROL STRUCTURE**  
Maintained by Lower San Joaquin Levee District



**The 2 inch crack has increased from 2" to 4" on the left bank abutment on the Upstream side and has been temporarily repaired.**



**Right wing wall showing signs of cracking**

**OWENS CREEK OVERFLOW STRUCTURE**  
**Maintained by Lower San Joaquin Levee District**

1. **Condition of the concrete overflow structure.**
  - a. **Acceptable.**
2. **Condition of the abutments and wing walls.**
  - a. **Minimally Acceptable**
3. **Condition of the control gates and mechanism.**
  - a. **Acceptable.**
4. **Condition of the revetment.**
  - a. **Acceptable.**
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. Increase of discharge side.**
7. **Comments:**
  - a. **Acceptable maintenance.**

**OWENS CREEK OVERFLOW STRUCTURE**  
Maintained by Lower San Joaquin Levee District



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



**View of the discharge side of the structure into the Eastside Bypass.**

**MARIPOSA BYPASS CONTROL STRUCTURE**  
**Maintained by Lower San Joaquin Levee District**

1. **Condition of concrete control structure.**
  - a. **Acceptable.**
2. **Condition of abutments and wing walls.**
  - a. **Acceptable.**
3. **Condition of radial gate and mechanisms.**
  - a. **Acceptable.**
4. **Condition of electrical equipment.**
  - a. **Acceptable.**
5. **Condition of gate hoist equipment.**
  - a. **Acceptable.**
6. **Condition of revetments.**
  - a. **Acceptable.**
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 equipment is tested and serviced prior to flood season each year by the District.**
  - b. **Acceptable maintenance.**
  - c. **Stem on auxiliary screw gate is bent.**

**MARIPOSA BYPASS CONTROL STRUCTURE**  
Maintained by Lower San Joaquin Levee District



**The upstream side of the structure.**



**The downstream side of the structure.**

**MARIPOSA BYPASS CONTROL STRUCTURE**  
**Maintained by Lower San Joaquin Levee District**



**Stem on auxiliary screw gate is bent.**

**MARIPOSA BYPASS DROP STRUCTURE**  
**Maintained by Lower San Joaquin Levee District**

1. **Condition of concrete drop structure, stilling basin, and velocity dissipaters.**
  - a. **Acceptable.**
2. **Condition of concrete abutments and wing walls.**
  - a. **The left wing wall has a 3 inch separation at the joint and is not stable.**
3. **Condition of revetment.**
  - a. **Acceptable.**
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. **Monitor the left wing wall during high water.**
  - b. **Acceptable maintenance.**

**MARIPOSA BYPASS DROP STRUCTURE**  
Maintained by Lower San Joaquin Levee District



**The upstream side of the structure**



**Left wing wall has moved for  $\frac{3}{4}$ " to 2-3"**

**EASTSIDE BYPASS CONTROL STRUCTURE**  
**Maintained by Lower San Joaquin Levee District**

1. **Condition of concrete control structure.**
  - a. **Acceptable.**
2. **Condition of abutments and wing walls.**
  - a. **Acceptable.**
3. **Condition of radial gate and mechanisms.**
  - a. **Acceptable.**
4. **Condition of electrical equipment.**
  - a. **Acceptable.**
5. **Condition of gate hoist equipment.**
  - a. **Acceptable.**
6. **Condition of engine generator set.**
  - a. **Acceptable.**
7. **Condition of float wells and allied equipment.**
  - a. **Acceptable.**
8. **Condition of revetment.**
  - a. **Acceptable.**
9. **Accumulation of trash and debris around the structure or in the channel.**
  - a. **None.**
10. **Vegetation around the structure or in the channel.**
  - a. **Minimal.**
11. **Comments:**
  - a. **All the equipment is tested and serviced prior to flood season each year.**
  - b. **Acceptable maintenance.**

**EASTSIDE BYPASS CONTROL STRUCTURE**  
**Maintained by Lower San Joaquin Levee District**



**The upstream side of the structure.**



**The downstream side of the structure.**

**SAN JOAQUIN RIVER STRUCTURE  
AND SAND SLOUGH STRUCTURE**  
Maintained by Lower San Joaquin Levee District

1. **Condition of San Joaquin River structure.**
  - a. **Acceptable.**
2. **Condition of the abutments, wing walls, and bulkheads.**
  - a. **Acceptable.**
3. **Condition of control gates and mechanisms.**
  - a. **Acceptable.**
4. **Condition of the Sand Slough structure (Parshall flume) and wing walls.**
  - a. **Acceptable.**
5. **Condition of the revetment.**
  - a. **Acceptable.**
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. **Acceptable maintenance.**

**SAN JOAQUIN RIVER STRUCTURE  
AND SAND SLOUGH STRUCTURE**  
Maintained by Lower San Joaquin Levee District



**View of the control gates at the intake of the structure.**



**View of the outlet channel.**

**SAN JOAQUIN RIVER STRUCTURE  
AND SAND SLOUGH STRUCTURE**  
Maintained by Lower San Joaquin Levee District



**Looking upstream at the Sand Slough structure.**

**FRESNO RIVER DRAINAGE STRUCTURE**  
**Maintained by Lower San Joaquin Levee District**

1. **Condition of concrete drainage structure.**
  - a. **Acceptable.**
2. **Condition of abutments and wing walls.**
  - a. **Acceptable.**
3. **Condition of control gate, mechanism, and flap gate.**
  - a. **The control gate mechanism is bent.**
4. **Condition of revetment.**
  - a. **Acceptable.**
5. **Accumulation of trash and debris around the structure or in the channel.**
  - a. **Acceptable.**
6. **Vegetation around the structure or in the channel.**
  - a. **Moderate.**
7. **Comments:**
  - a. **Repair the control gate mechanism.**
  - b. **Minimally Acceptable maintenance.**

**FRESNO RIVER DRAINAGE STRUCTURE**  
Maintained by Lower San Joaquin Levee District



**The intake side of the structure.**



**The discharge side of the  
Structure and the control mechanism.**

**ASH SLOUGH DROP STRUCTURE NO. 1**  
**Maintained by Lower San Joaquin Levee District**

1. **Condition of concrete drop structure, stilling basin, and velocity dissipaters.**
  - a. **Acceptable.**
2. **Condition of concrete abutments and wing walls.**
  - a. **Acceptable.**
3. **Condition of revetment.**
  - a. **Acceptable.**
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. **Acceptable maintenance.**

**ASH SLOUGH DROP STRUCTURE NO. 1**  
**Maintained by Lower San Joaquin Levee District**



**The abutments, stilling well and velocity dissipaters.**

**ASH SLOUGH DROP STRUCTURE NO. 2**  
**Maintained by Lower San Joaquin Levee District**

1. **Condition of concrete drop structure, stilling basin, and velocity dissipaters.**
  - a. **Acceptable.**
2. **Condition of concrete abutments and wing walls.**
  - a. **Acceptable.**
3. **Condition of revetments.**
  - a. **Acceptable.**
4. **Accumulation of trash and debris around the structure or in the channel.**
  - a. **Sand has accumulated in the stilling basin.**
5. **Vegetation around the structure or in the channel.**
  - a. **None.**
6. **Comments:**
  - a. **Acceptable maintenance.**

**ASH SLOUGH DROP STRUCTURE NO. 2**  
**Maintained by Lower San Joaquin Levee District**



**The downstream side of the structure.  
Sand is accumulating in the stilling basin.**

**ASH SLOUGH DROP STRUCTURE NO. 3**  
**Maintained by Lower San Joaquin Levee District**

1. **Condition of concrete drop structure, stilling basin and velocity dissipaters.**
  - a. **Acceptable, except the velocity dissipaters are covered with sand.**
2. **Condition of concrete abutments and wing walls.**
  - a. **Acceptable.**
3. **Condition of revetment.**
  - a. **Acceptable.**
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 Acceptable condition but needs to have the sand removed from the stilling basin and from around the velocity dissipaters.**
  - b. **Minimally Acceptable maintenance.**

**ASH SLOUGH DROP STRUCTURE NO. 3**  
**Maintained by Lower San Joaquin Levee District**



**The partially sand filled stilling basin.  
The velocity dissipaters are covered by sand.**

**ASH SLOUGH DROP STRUCTURE NO. 4**  
**Maintained by Lower San Joaquin Levee District**

1. **Condition of concrete drop structure, stilling basin, and velocity dissipaters.**
  - a. **What can be seen is in Acceptable condition, but a seasonal sand dam is backing up water for irrigation purposes on the upstream side.**
2. **Condition of concrete abutment wing walls.**
  - a. **Acceptable.**
3. **Condition of revetment.**
  - a. **Acceptable.**
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. **Condition of the gauging house and equipment.**
  - a. **The gauging house is completely non-functional. A placard on the damaged door indicates that this is a DWR gauging station.**
7. **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.**
  - c. **Determine the status of the gauging house and report findings to the Flood Project Inspection Section.**
  - d. **Unable to perform an adequate inspection of the structure due to the sand dam.**

**ASH SLOUGH DROP STRUCTURE NO. 4**  
**Maintained by Lower San Joaquin Levee District**



**The downstream side of the drop structure and the seasonal sand dam.**



**View looking downstream.**

**EASTSIDE BYPASS DROP STRUCTURE NO. 1**  
**Maintained by Lower San Joaquin Levee District**

1. **Condition of concrete drop structure, stilling basin and velocity dissipaters.**
  - a. **Acceptable.**
2. **Condition of concrete abutments and wing walls.**
  - a. **Acceptable.**
3. **Condition of revetment.**
  - a. **Acceptable.**
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. **Acceptable maintenance.**

**EASTSIDE BYPASS DROP STRUCTURE NO. 1**  
**Maintained by Lower San Joaquin Levee District**



**Overview of the stilling basin and the velocity dissipaters.**



**Looking northeast at the drop structure.**

**EASTSIDE BYPASS DROP STRUCTURE NO. 2**  
**Maintained by Lower San Joaquin Levee District**

1. **Condition of concrete structure, stilling basin, and velocity dissipaters.**
  - a. **Acceptable.**
2. **Condition of concrete abutments and wing walls.**
  - a. **Acceptable.**
3. **Condition of revetment.**
  - a. **Acceptable.**
4. **Accumulation of trash and debris around the structure or in the channel.**
  - a. **Minimal.**
5. **Vegetation and debris around the structure or in the channel.**
  - a. **None.**
6. **Comments:**
  - a. **Acceptable maintenance.**

**EASTSIDE BYPASS DROP STRUCTURE NO. 2**  
Maintained by Lower San Joaquin Levee District



**Overview of the stilling basin, velocity dissipaters and revetment.**



**Looking east at the drop structure.**

**SAN JOAQUIN RIVER AND  
CHOWCHILLA CANAL BYPASS CONTROL STRUCTURE**  
Maintained by Lower San Joaquin Levee District

1. **Condition of the San Joaquin River Control Structure.**
  - a. **Acceptable.**
2. **Condition of the Chowchilla Canal Bypass Structure.**
  - a. **Acceptable.**
3. **Condition of the abutments and wing walls.**
  - a. **Acceptable.**
4. **Condition of the radial gates and mechanisms.**
  - a. **Acceptable.**
5. **Condition of the gate hoist equipment.**
  - a. **Acceptable.**
6. **Condition of the engine generator set.**
  - a. **Acceptable.**
7. **Condition of the float wells and equipment.**
  - a. **Acceptable.**
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. **Minimal.**
10. **Comments:**
  - a. **All the equipment is tested and serviced prior to flood season each year**
  - b. **Acceptable maintenance.**

**SAN JOAQUIN RIVER AND  
CHOWCHILLA CANAL BYPASS CONTROL STRUCTURE**  
Maintained by Lower San Joaquin Levee District



**The upstream side of the San Joaquin River structure.**



**The downstream side of the San Joaquin River structure.**

**SAN JOAQUIN RIVER AND  
CHOWCHILLA CANAL BYPASS CONTROL STRUCTURE**  
Maintained by Lower San Joaquin Levee District



**The upstream side of the Chowchilla Canal Bypass structure.**



**The downstream side of the structure  
into the Chowchilla Canal bypass.**

## **CHAPTER III**

# **FLOOD CONTROL PUMPING PLANTS INSPECTED ON THE SACRAMENTO RIVER, SAN JOAQUIN RIVER AND TRIBUTARIES**

**2007**

**MIDDLE CREEK PUMPING PLANT**  
**Maintained by State of California**  
**Sutter Maintenance Yard**

1. **Overall Facility Maintenance Rating**
  - a. **Acceptable, noted deficiencies do not affect operability or readiness**
2. **Operating Log and Maintenance Manual**
  - a. **Unacceptable Acceptable, Log not available.**
  - b. **Unacceptable Acceptable, Manual not available.**
3. **Building and Structure**
  - a. **Minimally Acceptable**  
**The separation between the top of the surge box and the structure appears to have a nine and one half inch side displacement. The surge chamber has settled twelve inches with a two inch deflection since 1962. The chamber is 7.6 feet below the top of the structure.**
4. **Life Safety and Security Fencing**
  - a. **Acceptable, perimeter lighting disabled by shotgun pellets**
  - b. **Minimally Acceptable Acceptable, Gap along base of South-East fence, barbwire missing from top rails of North-West fence.**
5. **Sumps or Wet wells and Trash Racks**
  - a. **Acceptable**
  - b. **Acceptable, small amount of debris accumulation on racks**
6. **Slide and Flap Gates**
  - a. **Acceptable**
  - b. **Acceptable**
7. **Manual and Electric Gate Operators**
  - a. **Acceptable**
  - b. **Acceptable, present during automatic operation**

**MIDDLE CREEK PUMPING PLANT**  
Maintained by State of California  
Sutter Maintenance Yard

**8. Pump and Pump Control system**

a. **Acceptable**

b. **Acceptable**

**9. Metallic Elements**

a. **Acceptable**



**View of the pumping plant, sump and trash racks.**

**MIDDLE CREEK PUMPING PLANT**  
Maintained by State of California  
Sutter Maintenance Yard



**9.5 inch side displacement between the structure and the surge chamber.**



**Barb wire missing from top rail of security fence**

**SUTTER BYPASS PUMPING PLANT NO. 1**  
Maintained by State of California  
Sutter Maintenance Yard

1. **Overall Facility Maintenance Rating**
  - a. **Acceptable**
2. **Operating Log and Maintenance Manual**
  - a. **Acceptable, Copy received**
  - b. **Acceptable, Manual available.**
3. **Building and Structure**
  - a. **Acceptable**
4. **Life Safety and Security Fencing**
  - a. **Acceptable**
  - b. **Acceptable**
5. **Sumps or Wet wells and Trash Racks**
  - a. **Acceptable**
  - b. **Acceptable**
6. **Slide and Flap Gates**
  - a. **Acceptable**
  - b. **Acceptable**
7. **Manual and Electric Gate Operators**
  - a. **Acceptable**
  - b. **Acceptable**
8. **Pump and Pump Control system**
  - a. **Minimally Acceptable, Unit 3 scheduled for repair**
  - b. **Acceptable**
9. **Metallic Elements**
  - a. **Acceptable**

**SUTTER BYPASS PUMPING PLANT NO. 1**  
Maintained by State of California  
Sutter Maintenance Yard



**The intake side of the pumping plant.**



**Discharge slide gate wells and operator**  
**Note: correct erosion condition**

**SUTTER BYPASS PUMPING PLANT NO. 2**  
**Maintained by State of California**  
**Sutter Maintenance Yard**

- 1. Overall Facility Maintenance Rating**
  - a. **Acceptable**
- 2. Operating Log and Maintenance Manual**
  - a. **Acceptable, Copy received**
  - b. **Acceptable, Manual available.**
- 3. Building and Structure**
  - a. **Acceptable**
- 4. Life Safety and Security Fencing**
  - a. **Acceptable, concrete landing step cracked**
  - b. **Minimally Acceptable, main corrugated metal gate damaged**
- 5. Sumps or Wet wells and Trash Racks**
  - a. **Minimally Acceptable, small amount of debris accumulation in sump 4**
  - b. **Acceptable**
- 6. Slide and Flap Gates**
  - a. **Acceptable**
  - b. **Acceptable**
- 7. Manual and Electric Gate Operators**
  - a. **Acceptable**
  - b. **Acceptable**
- 8. Pump and Pump Control system**
  - a. **Acceptable**
  - b. **Acceptable**
- 9. Metallic Elements**
  - a. **Acceptable, protective coating on repaired intake patchy**

**SUTTER BYPASS PUMPING PLANT NO. 2**  
Maintained by State of California  
Sutter Maintenance Yard



**The pumping plant, sump and trash racks from the intake side.**



**Damaged Front Gate**

**SUTTER BYPASS PUMPING PLANT NO. 3**  
**Maintained by State of California**  
**Sutter Maintenance Yard**

- 1. Overall Facility Maintenance Rating**
  - a. Acceptable**
- 2. Operating Log and Maintenance Manual**
  - a. Acceptable, Copy received**
  - b. Acceptable, Manual available.**
- 3. Building and Structure**
  - a. Acceptable**
- 4. Life Safety and Security Fencing**
  - a. Acceptable**
  - b. Acceptable**
- 5. Sumps or Wet wells and Trash Racks**
  - a. Acceptable**
  - b. Acceptable**
- 6. Slide and Flap Gates**
  - a. Acceptable**
  - b. Acceptable**
- 7. Manual and Electric Gate Operators**
  - a. Acceptable**
  - b. Acceptable**
- 8. Pump and Pump Control system**
  - a. Acceptable, Units 3 & 4 newly replaced and tested**
  - b. Acceptable**
- 9. Metallic Elements**
  - a. Acceptable**

**SUTTER BYPASS PUMPING PLANT NO. 3**  
Maintained by State of California  
Sutter Maintenance Yard



**The inlet side of the pumping plant.**



**The discharge side of the pumping plant.**

**MAGPIE CREEK PUMPING PLANT**  
**Maintained by City of Sacramento**

1. **Overall Facility Maintenance Rating**
  - a. **Acceptable**
2. **Operating Log and Maintenance Manual**
  - a. **Acceptable, Copy received**
  - b. **Acceptable, Manual available.**
3. **Building and Structure**
  - a. **Acceptable**
4. **Life Safety and Security Fencing**
  - a. **Minimally Acceptable, Access to discharge gate wells requires crossing 2 sets of active railroad tracks, Propane tank not protected from traffic**
  - b. **Minimally Acceptable, Crawl space under rear gate**
5. **Sumps or Wet wells and Trash Racks**
  - a. **Acceptable**
  - b. **Acceptable**
6. **Slide and Flap Gates**
  - a. **Acceptable**
  - b. **Minimally Acceptable, Unit 2 flap gate blocked open**
7. **Manual Gate Operators**
  - a. **Acceptable**
8. **Pump and Pump Control system**
  - a. **Acceptable, Unit 1 removed, intake and outlet welded shut**
  - b. **Acceptable**
9. **Metallic Elements**
  - a. **Acceptable**

**MAGPIE CREEK PUMPING PLANT**  
Maintained by City of Sacramento



**Unit 1 Discharge Flap Gate Removed  
Unit 2 Discharge Flap Gate will not fully close**



**Discharge Outlet looking back at Pumping Plant**

**MAGPIE CREEK PUMPING PLANT**  
Maintained by City of Sacramento



**Propane Tank located along driveway next to Pumping Plant**



**Rear Access Gate**

# **AMERICAN RIVER PUMPING PLANT NO.1**

**Maintained by Sacramento County as**

**Howe Avenue Storm Drain D - 05**

- 1. Overall Facility Maintenance Rating**
  - a. Acceptable**
- 2. Operating Log and Maintenance Manual**
  - a. Acceptable, Copy received**
  - b. Acceptable, Manual available.**
- 3. Building and Structure**
  - a. Acceptable, monitor cracking of right outlet wing wall**
- 4. Life Safety and Security Fencing**
  - a. Acceptable, Stairs have settled 1 inch and may be a tripping hazard**
  - b. Acceptable**
- 5. Sumps or Wet wells and Trash Racks**
  - a. Acceptable**
  - b. Acceptable**
- 6. Slide and Flap Gates**
  - a. Acceptable**
  - b. Acceptable**
- 7. Manual and Automatic Gate Operators**
  - a. Acceptable**
  - b. Acceptable**
- 8. Pump and Pump Control system**
  - a. Acceptable**
  - b. Acceptable**
- 9. Metallic Elements**
  - a. Acceptable**

**AMERICAN RIVER PUMPING PLANT NO.1**  
Maintained by Sacramento County as  
Howe Avenue Storm Drain D - 05



**Gates and controls at the discharge side of the pumping plant.**



**Traffic barriers used to divert low flow to main sump**

## **AMERICAN RIVER PUMPING PLANT NO. 2**

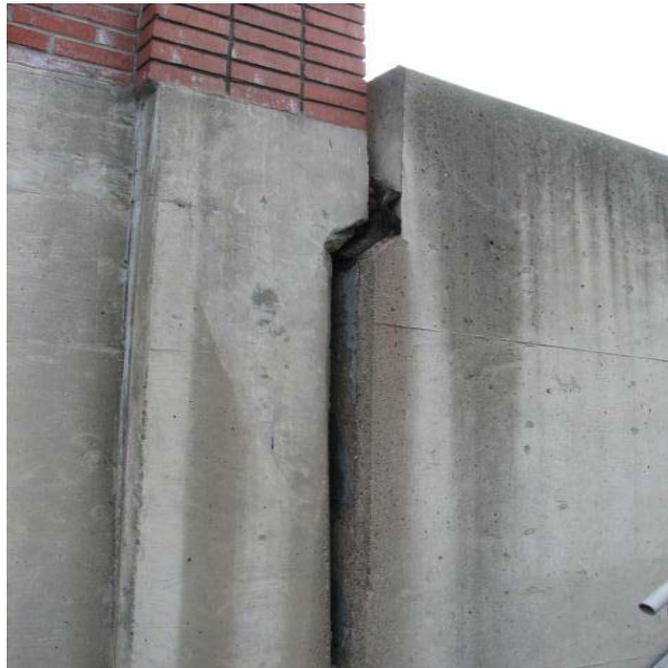
**Maintained by Sacramento County as  
Willhaggin Storm Drain D – 43**

- 1. Overall Facility Maintenance Rating**
  - a. Acceptable**
- 2. Operating Log and Maintenance Manual**
  - a. Acceptable, Copy received**
  - b. Acceptable, Manual available.**
- 3. Building and Structure**
  - a. Acceptable, There is a 3 - 4 inch deflection in the retaining wall**
- 4. Life Safety and Security Fencing**
  - a. Acceptable**
  - b. Acceptable, barb wire missing from top of intake security fence**
- 5. Sumps or Wet wells and Trash Racks**
  - a. Acceptable**
  - b. Acceptable**
- 6. Slide and Flap Gates**
  - a. Acceptable**
  - b. Minimally Acceptable, Unit 1 Flap Gate does not fully close**
- 7. Manual and Automatic Gate Operators**
  - a. Acceptable**
  - b. Acceptable**
- 8. Pump and Pump Control system**
  - a. Acceptable**
  - b. Acceptable**
- 9. Metallic Elements**
  - a. Acceptable**

**AMERICAN RIVER PUMPING PLANT NO. 2**  
Maintained by Sacramento County as  
Willhaggin Storm Drain D – 43



**Gate controls and flap gates on the discharge side of the pumping plant.**



**3 - 4 inch deflection in the west retaining wall.**

**MORMON SLOUGH PUMPING PLANT NO. 1**  
**Maintained by San Joaquin County**

- 1. Overall Facility Maintenance Rating**
  - a. **Acceptable**
- 2. Operating Log and Maintenance Manual**
  - a. **Unacceptable, Copy not received**
  - b. **Unacceptable, Manual not available.**
- 3. Building and Structure**
  - a. **Acceptable, bullet holes seen through out building**
- 4. Life Safety and Security Fencing**
  - a. **Acceptable, main sidewalk is crack, security lighting non-functional**
  - b. **Minimally Acceptable, security gate (Back) and security fence (3 locations) damaged by trespassers**
- 5. Sumps or Wet wells and Trash Racks**
  - a. **Acceptable**
  - b. **Acceptable**
- 6. Slide and Flap Gates**
  - a. **Acceptable**
  - b. **Acceptable**
- 7. Manual Gate Operators**
  - a. **Acceptable**
- 8. Pump and Pump Control system**
  - a. **Acceptable**
  - b. **Acceptable**
- 9. Metallic Elements**
  - a. **Minimally Acceptable, Pump house hand rails show signs of corrosion**

**MORMON SLOUGH PUMPING PLANT NO. 1**  
Maintained by San Joaquin County



**View of the pumping plant, sump and trash racks.**



**Back security gate and fence**  
**Note: Repair gate and fence**

**MORMON SLOUGH PUMPING PLANT NO. 2**  
**Maintained by San Joaquin County**

- 1. Overall Facility Maintenance Rating**
  - a. **Acceptable**
- 2. Operating Log and Maintenance Manual**
  - a. **Unacceptable, Copy not received**
  - b. **Unacceptable, Manual unavailable.**
- 3. Building and Structure**
  - a. **Acceptable**
- 4. Life Safety and Security Fencing**
  - a. **Acceptable, main sidewalk is crack, security lighting non-functional**
  - b. **Minimally Acceptable, security fence damaged by trespassers**
- 5. Sumps or Wet wells and Trash Racks**
  - a. **Acceptable**
  - b. **Acceptable**
- 6. Slide and Flap Gates**
  - a. **Acceptable**
  - b. **Acceptable**
- 7. Manual Gate Operators**
  - a. **Acceptable**
- 8. Pump and Pump Control system**
  - a. **Acceptable**
  - b. **Acceptable**
- 9. Metallic Elements**
  - a. **Minimally Acceptable, light posts are corroded**

**MORMON SLOUGH PUMPING PLANT NO. 2**  
Maintained by San Joaquin County



**View of the pumping plant, sump and trash racks at the intake.**



**New inlet drainage pipe**  
**Note: Security Grate needed over pipe openings**

**MORMON SLOUGH PUMPING PLANT NO. 3**  
**Maintained by San Joaquin County**

- 1. Overall Facility Maintenance Rating**
  - a. **Acceptable**
- 2. Operating Log and Maintenance Manual**
  - a. **Unacceptable, Copy not received**
  - b. **Unacceptable, Manual unavailable.**
- 3. Building and Structure**
  - a. **Acceptable**
- 4. Life Safety and Security Fencing**
  - a. **Acceptable, main sidewalk foundation is undermined due to erosion, security lighting non-functional**
  - b. **Minimally Acceptable, new concrete drain provides access under security fence**
- 5. Sumps or Wet wells and Trash Racks**
  - a. **Acceptable**
  - b. **Acceptable**
- 6. Slide and Flap Gates**
  - a. **Acceptable**
  - b. **Acceptable**
- 7. Manual Gate Operators**
  - a. **Acceptable**
- 8. Pump and Pump Control system**
  - a. **Acceptable**
  - b. **Acceptable**
- 9. Metallic Elements**
  - a. **Acceptable**

**MORMON SLOUGH PUMPING PLANT NO. 3**  
Maintained by San Joaquin County



**The pumping plant, sump and trash racks at the intake.**



**Pump structure entry sidewalk**  
**Note: Repair sidewalk foundation and erosion path**

**WETHERBEE LAKE PUMPING PLANT  
AND NAVIGATION GATE  
Maintained by Reclamation District No. 2096**

1. **Overall Facility Maintenance Rating**
  - a. **Acceptable**
2. **Operating Log and Maintenance Manual**
  - a. **Unacceptable, Copy not received**
  - b. **Unacceptable, Manual unavailable.**
3. **Building and Structure**
  - a. **Acceptable**
4. **Life Safety and Security Fencing**
  - a. **Acceptable**
  - b. **Minimally Acceptable, security fence has been cut away along down stream slope near trailer park office**
5. **Sumps or Wet wells and Trash Racks**
  - a. **Acceptable**
  - b. **Acceptable**
6. **Slide and Flap Gates**
  - a. **Acceptable**
  - b. **Acceptable**
7. **Manual Gate Operators**
  - a. **Acceptable**
8. **Pump and Pump Control system**
  - a. **Acceptable**
  - b. **Acceptable**
9. **Metallic Elements**
  - a. **Acceptable**

**WETHERBEE LAKE PUMPING PLANT  
AND NAVIGATION GATE  
Maintained by Reclamation District No. 2096**



**View of the pump house intake and the radial gate.**



**Security fence left side of the down stream slope  
Note: Repair fence shown in middle of photo**

**GOMES LAKE PUMPING PLANT**  
**Maintained by Turlock Irrigation District**

- 1. Overall Facility Maintenance Rating**
  - a. **Acceptable**
- 2. Operating Log and Maintenance Manual**
  - a. **Unacceptable, Copy not received**
  - b. **Unacceptable, Manual unavailable.**
- 3. Building and Structure**
  - a. **Acceptable**
- 4. Life Safety and Security Fencing**
  - a. **Acceptable**
  - b. **Acceptable**
- 5. Sumps or Wet wells and Trash Racks**
  - a. **Acceptable**
  - b. **Acceptable**
- 6. Slide and Flap Gates**
  - a. **Acceptable**
  - b. **Acceptable**
- 7. Manual Gate Operators**
  - a. **Acceptable**
- 8. Pump and Pump Control system**
  - a. **Acceptable**
  - b. **Acceptable**
- 9. Metallic Elements**
  - a. **Acceptable**

**GOMES LAKE PUMPING PLANT**  
Maintained by Turlock Irrigation District



**View of the pumping plant, sump and trash racks.**



**The pumping plant outlet**

**RECLAMATION DISTRICT NO 2063 PUMPING PLANT (Nelson Drain)**  
**Maintained by Reclamation District No. 2063**

- 1. Overall Facility Maintenance Rating**
  - a. Minimally Acceptable, outlet pipe broken within levee**
- 2. Operating Log and Maintenance Manual**
  - a. Unacceptable, Copy not received**
  - b. Unacceptable, Manual unavailable.**
- 3. Building and Structure**
  - a. Acceptable**
- 4. Life Safety and Security Fencing**
  - a. Acceptable**
  - b. Unacceptable, no security fencing**
- 5. Sumps or Wet wells and Trash Racks**
  - a. Acceptable**
  - b. Acceptable**
- 6. Slide and Flap Gates**
  - a. Acceptable**
  - b. Acceptable**
- 7. Manual Gate Operators**
  - a. Acceptable**
- 8. Pump and Pump Control system**
  - a. Acceptable**
  - b. Acceptable**
- 9. Metallic Elements**
  - a. Acceptable**

**RECLAMATION DISTRICT NO 2063 PUMPING PLANT (Nelson Drain)  
Maintained by Reclamation District No. 2063**



**The pumping plant intake and trash racks.**



**Plant discharge pipes**

**Note: repair or replace cracked pipe and recompact levee slope**

## 2007 Structure Inspection Assignment List

<u><b>Duffey, Robert</b></u>	<u><b>Inspection By</b></u>
North Fork Feather River Diversion & Drop Structure	Robert Duffey
North Fork Feather River Diversion Channel Drop Structure (1 -7)	Robert Duffey
Big Chico Creek Control Structure	Robert Duffey
Lindo Channel Diversion Weir	Robert Duffey
Lindo Channel Control Structure	Robert Duffey
Little Chico Control & Weir Structure	Robert Duffey
Moulton Weir	Robert Duffey
Colusa Weir	Robert Duffey
Tisdale Weir	Robert Duffey
Butte Slough Outfall Structure	Robert Duffey
Butte Slough Drainage Structure	Robert Duffey
<u><b>Phillips, Herman</b></u>	
Black Rascal Creek Drop Structure	Herman Phillips
Owens Creek Siphon Structure	Herman Phillips
Ash & Berenda Slough Control Structure	Herman Phillips
Fresno River Diversion Weir	Herman Phillips
<u><b>Soto, Mark</b></u>	
Duck Creek Diversion Weir & Control Structure	Mark Soto
Paradise Dam	Mark Soto
San Joaquin River Structure & Sand Slough Structure	Mark Soto
Fresno River Drainage Structure	Mark Soto
Ash Slough Drop Structure #1	Mark Soto
Ash Slough Drop Structure #2	Mark Soto
Ash Slough Drop Structure #3	Mark Soto
Ash Slough Drop Structure #4	Mark Soto
Eastside Bypass Drop Structure #1	Mark Soto

Eastside Bypass Drop Structure #2	Mark Soto
San Joaquin River & Chowchilla Canal Bypass Control Structure	Mark Soto
<b><u>Thomas, Clay</u></b>	
Clovis Creek Diversion Structure	Clay Thomas
Highlands Canal Diversion Weir & Drainage Structure	Clay Thomas
Wadworth Canal Weir #4	Clay Thomas
Sutter Bypass (East Borrow Pit) Weir #2	Clay Thomas
Nelson Bend Quarry Rock Weir	Clay Thomas
<b><u>Inspection By</u></b>	
<b><u>Williamson, John</u></b>	
Knights Landing Outfall Structure	John Williamson
Fremont Weir	John Williamson
Cache Creek Settling Basin Weir & Drainage Structure	John Williamson
Sacramento Weir	John Williamson
<b><u>Willoughby, Richard</u></b>	
Elk Slough Inlet Structure	Richard Willoughby
Bear Creek Diversion Structure	Richard Willoughby
Owens Creek Control Structure	Richard Willoughby
Owens Creek Overflow Structure	Richard Willoughby
Mariposa Bypass Control Structure	Richard Willoughby
Eastside Bypass Control Structure	Richard Willoughby
<b><u>Yego, Jon</u></b>	
Middle Creek Pumping Plant	Jon Yego
Sutter Bypass Pumping Plant #1	Jon Yego
Sutter Bypass Pumping Plant #2	Jon Yego
Sutter Bypass Pumping Plant #3	Jon Yego
Magpie Creek Pumping Plant	Jon Yego
American River Pumping Plant No. 1	Jon Yego
American River Pumping Plant No. 2	Jon Yego
Mormon Slough Pumping Plant No. 1	Jon Yego
Mormon Slough Pumping Plant No. 2	Jon Yego
Mormon Slough Pumping Plant No. 3	Jon Yego
Wetherbee Lake Pumping Plant and Navigation Gate	Jon Yego
Gomes Lake Pumping Plant	Jon Yego
Reclamation District No. 2063 Pumping Plant	Jon Yego

### GLOBAL POSITIONING (GPS)

SITE	GPS (WGS 84)	GPS (WGS 84)
AMERICAN RIVER PUMPING PLANT NO.1 HOWE AVENUE STORM DRAIN D - 05	N 38° 35.076' W 121° 25.285'	N 38° 58460 W 121° 42141
AMERICAN RIVER PUMPING PLANT NO.1 WILLHAGGIN STORM DRAIN D - 43	N 38° 34.198' W 121° 22.500'	N 38° 56996 W 121° 37500
ASH AND BERENDA SLOUGH CONTROL STRUCTURES	N 37° 09.519' W 120° 07.470'	N 37° 15865 W120° 12450
ASH SLOUGH DROP STRUCTURE NO. 1	N 37° 02.042' W 120° 26.518'	N 37° 03440 W 120° 44196
ASH SLOUGH DROP STRUCTURE NO. 2	N 37° 02.275' W 120° 26.422'	N 37° 03791 W 120° 44036
ASH SLOUGH DROP STRUCTURE NO. 3	N 37° 02.576' W 120° 26.191'	N 37° 04293 W 120° 43651
ASH SLOUGH DROP STRUCTURE NO. 4	N 37° 02.726' W 120° 25.796'	N 37° 04543 W 120° 42993
BEAR CREEK DIVERSION STRUCTURE	N 37° 15.292' W 120° 43.096'	N 37° 25482 W 120° 71826
BIG CHICO CREEK DIVERSION STRUCTURE	N 39° 45.710' W 121° 47.555'	N 39° 76183 W 121° 79258
BLACK RASCAL CREEK DROP STRUCTURE	N 37° 18.886' W 120° 23.781'	N 37° 31767 W 120° 34571
BUTTE SLOUGH DRAINAGE STRUCTURE	N 39° 11.826' W 121° 56.614'	N 39° 19710 W 121° 94356
BUTTE SLOUGH OUTFALL STRUCTURE	N 39° 11.724' W 121° 56.177'	N 39° 19540 W 121° 93628
CACHE CREEK SETTING BASIN WEIR AND DRAINAGE STRUCTURE	N 38° 40.953' W 121° 40.375'	N 38° 68457 W 121° 67326
CLOVER CREEK DIVERSION STRUCTURE	N 39° 10.623' W 122° 53.925'	N 39° 17704 W 122° 89889
DUCK CREEK DIVERSION WEIR AND CONTROL STRUCTURE	N 37° 56.303' W 120° 59.408'	N 37° 93838 W 120° 99013
EASTSIDE BYPASS CONTROL STRUCTURE	N 37° 12.263' W 120° 41.850'	N 37° 20438 W 120° 69750
EASTSIDE BYPASS DROP STRUCTURE NO. 1	N 36° 58.566' W 120° 22.924'	N 36° 97610 W 120° 38200
EASTSIDE BYPASS DROP STRUCTURE NO. 2	N 36° 58.583' W 120* 22.492'	N 36° 97630 W 120° 38200
ELK SLOUGH INLET STRUCTURE	N 38° 24.843' W 121° 31.379'	N 38° 41405 W 121° 52298
FREMONT WEIR	N 38° 45.540' W 121° 39.927'	N 38° 75907 W 121° 66541
FRESNO RIVER DIVERSION WEIR	N 36° 58.115' W 120° 15.330'	N 36° 96846 W 120° 25552
FRESNO RIVER DRAINAGE STRUCTURE	36.58.528°N 120.21.580°W	N 36° 97546 W 120° 35966
GOMES LAKE PUMPING PLANT	N 37° 28.894' W 121° 02.797'	N 37° 48156 W 121° 04661
HIGHLAND CANAL DIVERSION WEIR AND DRAINAGE STRUCTURE	N 39° 07.579' W 122° 52.964'	N 39° 12626 W 122° 88267
KNIGHTS LANDING OUTFALL STRUCTURE	N 38° 01.580' W 121° 43.511'	N 38° 79950 W 121° 72501
LINDO CHANNEL CONTROL STRUCTURE	N 39° 45.678' W 121° 47.827'	N 39° 76130 W 121° 79711
LINDO CHANNEL DIVERSION WEIR	N 39° 45.722' W 121° 47.837'	N 39° 76203 W 121° 79728

LITTLE CHICO CREEK CONTROL AND WEIR STRUCTURES	N 39° 44.014' W 121° 46.309'	N 39° 73356 W 121° 77181
MAGPIE CREEK PUMPING PLANT	N 38° 38.448' W 121° 22.263'	N 38° 64080 W 121° 37105
MARIPOSA BYPASS CONTROL STRUCTURE	N 37° 12.101' W 120° 41.696'	N 37° 20168 W 120° 69490
MARIPOSA BYPASS DROP STRUCTURE	N 37° 12.159' W 120° 45.314'	N 37° 20265 W 120° 75523
MIDDLE CREEK PUMPING PLANT	N 39° 08.538' W 122° 54.141'	N 39° 14230 W 122° 90235
MORMON SLOUGH PUMPING PLANT NO. 1	N 37° 59.378' W 121° 16.016'	N 37° 98963 W 121° 26693
MORMON SLOUGH PUMPING PLANT NO. 2	N 37° 58.939' W 121° 14.966'	N 37° 98231 W 121° 24943
MORMON SLOUGH PUMPING PLANT NO. 3	N 37° 58.439' W 121° 13.798'	N 37° 97398 W 121° 22996
MOULTON WEIR	N 39° 20.299' W 122° 01.326'	N 39° 33831 W 122° 02210
NELSON BEND	N 38° 53.665' W 121° 37.101'	N 38° 89547 W 121° 61687
NORTH FORK FEATHER RIVER DIVERSION CHANNEL DROP STRUCTURE DROP STRUCTURE NO. 3 THROUGH 7	N 40° 28.202' W 121° 25.120'	N 40° 47003 W 121° 41866
NORTH FORK FEATHER RIVER DIVERSION CHANNEL DROP STRUCTURE DROP STRUCTURE NO.1	N 40° 29.864' W 121° 26.123'	N 40° 49773 W 121° 43538
NORTH FORK FEATHER RIVER DIVERSION STRUCTURE	N 40° 30.292' W 121° 26.193'	N 40° 50486 W 121° 43655
OWENS CREEK CONTROL STRUCTURE	N 37° 13.190' W 120° 41.891'	N 37° 21983 W 120° 69818
OWENS CREEK OVERFLOW STRUCTURE	N 37° 12.350' W 120° 41.808'	N 37° 20583 W 120° 69680
OWENS CREEK SIPHON STRUCTURE	N 37° 15.771' W 120° 17.281'	N 37° 26285 W 120° 28822
PARADISE DAM	N 37° 45.633' W 121° 18.565'	N 37° 76055 W 121° 30941
RECLAMATION DISTRICT NO. 2063 PUMPING PLANT (Nelson Drain)	N 37° 23.867' W 120° 58.346'	N 37° 39778 W 120° 97243
SACRAMENTO WEIR	N 38° 36.319' W 121° 33.489'	N 38° 60466 W 121° 55733
SAN JOAQUIN RIVER AND CHOWCHILLA CANAL BYPASS CONTROL STRUCTURE	N 36° 46.439' W 120° 17.044'	N 36° 77398 W 120° 28406
SAN JOAQUIN RIVER STRUCTURE AND SAND SLOUGH STRUCTURE	N 37° 06.745' W 120° 35.358'	N 37° 11241 W 120° 58930
SUTTER BYPASS PUMPING PLANT NO. 1	N 38° 55.914' W 121° 38.064'	N 38° 93190 W 121° 63440
SUTTER BYPASS PUMPING PLANT NO. 2	N 38° 01.580' W 121° 43.624'	N 38° 02633 W 121° 72066
SUTTER BYPASS PUMPING PLANT NO. 3	N 39° 07.202' W 121° 46.764'	N 39° 12003 W 121° 77940
SUTTER BYPASS WEIR NO. 2	N 39° 06.164' W 121° 45.522'	N 39° 10274 W 121° 75873
TISDALE WEIR	N 39° 01.619' W 121° 49.918'	N 39° 02698 W 121° 83196
WADSWORTH CANAL WEIR NO. 4	N 39° 09.206' W 121° 44.076'	N 39° 15334 W 121° 73430