



option would free up capacity within the Bingham Canal system during storm peaks to achieve 100-year flow capacity without enlargement of the system.

The Eastside Interceptor Canal should be improved in order to finalize the goals of the SYDMP. In addition, the County Regional Detention Pond should be increased in size and a new pumping station constructed there to replace the Avondale Pump Station as development is approved in the East Linda area.

### **Olivehurst**

Recent studies completed for the Clark Lateral and Clark Slough identified necessary drainage improvements. The purpose of the Clark Lateral and Clark Slough Mitigation Project is to protect the Community of Olivehurst from flooding caused by the undersized channel and general lack of drainage facilities. This project would provide 100-year protection to the area located east of the UPRR embankment, west of State Route 65/70, south of Erle Road, and north of a line about 800 feet north of Plumas Arboga Road. The primary components of the project will include improvements to Clark Lateral and Clark Slough. Another key item is the construction of a pipeline lateral from Clark Lateral to Fourth Avenue and Western Avenue.

In addition, the South Olivehurst Detention Basin and pumping station, which was completed in November 2006, will also remove large areas of Olivehurst from the 100-year floodplain.

The most significant residual flooding in Olivehurst is along Mage Avenue. Alternatives have not been developed to protect these residents.

The recommendation is to complete the required culvert replacements and installation of a new underground conveyance system for the Fourth Avenue/Western Avenue area. Once all of the improvements have been completed, Yuba County should prepare a Letter of Map Revision (LOMR) and remove the properties no longer located below the 100-year base flood elevation.

### **RD 784**

RD 784 encompasses a drainage area of approximately 17,000 acres within Yuba County and is roughly bound by the Yuba River to the north, the Bear River to the south, the Feather River to the west, and the WPIC to the east. Within its watershed, RD 784 operates a system of drainage laterals that convey storm runoff to a number of pumping plants that discharge the runoff outside of district boundaries.

A Drainage Master Plan for RD 784 was prepared in September 2002. The purpose of the master plan was to develop a comprehensive plan to cover all of RD 784. One of the conditions of this approval of the North Arboga Study Area and the Plumas Lake Specific Plan area was the development of a comprehensive master plan to ensure the proper implementation of drainage facilities.

RD 784 is divided into three major drainage basins based on historical drainage patterns in the area:

- Drainage Basin A encompasses about 4,900 acres in the southern portion of RD 784. Runoff from the basin is conveyed within Lateral 5, Lateral 16, and the lower Clark Slough to Pump Station No. 2 where it is pumped into the Feather River.
- Drainage Basin B encompasses approximately 6,900 acres in the north-central portion of RD 784. The major conveyance facilities within the basin are Lateral 13, Lateral 14, and the Plumas Lake Canal. The canals deliver water to Pump Station No. 3 where it is pumped into the Feather River.
- Drainage Basin C encompasses approximately 5,200 acres in the northeast portion and along the entire eastern portion of RD 784. The basin extends from the Yuba River to the Bear River and consists of all lands east of the Lateral 15/Algodon Canal. The major conveyance facilities in this basin are Lateral 15, Bingham Canal, and Algodon Canal. A small portion of the water is pumped into the Feather River at Pump Station No. 9 (also called Island Road Pump Station), but the remaining runoff continues south to Pump Station No. 6, which pumps into the Bear River.

The Master Plan proposed improvements to the numerous pump stations. RD 784 established a policy to require all new pump stations to have a Supervisory Control and Data Acquisition (SCADA) system, a redundant pump, and backup generator. The policy is based on past experience where both Pump Station No. 9 and Pump Station No. 2 lost power during a major storm event resulting in additional flooding. The SCADA system will allow RD 784 to operate and monitor the pumps and motors from a remote location. It will also immediately alert District personnel of a power outage or operation problem. The Master Plan also recommended some detention basin improvements. Recommendations made in the Master Plan are listed below.

- Pump Station No. 1 – The improvements for Pump Station No. 1 (also called the Woody Pump) include the installation of a SCADA system and backup generator.



- Pump Station No. 2 – The improvements for Pump Station No. 2 include the installation of a SCADA system, redundant pump, and a backup generator.
- Pump Station No. 3 – The improvements for Pump Station No. 3 include relocating the pump station set back from the levee and reconstructing it to current standards.
- Pump Station No. 4 – The improvements for Pump Station No. 4 include completely reconstructing the pump station to a 40 cfs capacity and including a SCADA system, backup generator, and redundant pump.
- Pump Station No. 5 – The improvements for Pump Station No. 5 (sometimes referred to as the Avondale Pump Station) include relocating the pump station to the Edgewater Detention Pond and including a SCADA system, backup generator, and redundant pump.
- Pump Station No. 7 – The improvements for Pump Station No. 7 (sometimes referred to as the Chestnut Pump Station) include constructing a new pump station capable of pumping 15 cfs with a redundant pump, a motor control center with a SCADA system, and a backup generator.
- North Regional Pump Station at Ella Road – The improvements for this site include constructing a new pump station to direct water into the Feather River near Island Road, decreasing the flow south in Lateral 15 and Algodon Canal.
- Pump Station No. 9 – The improvements for Pump Station No. 9 (sometimes referred to as the Island Road Pump Station) include installing a SCADA system and a backup generator.
- North Drainage Basin C Regional Detention Pond – A portion of the north regional detention pond has been constructed, which was considered Phase 1 of the Basin C Regional Detention Pond. The remaining portion of the detention pond in conjunction with construction of Pump Station No. 10 will completely remove areas adjacent to Lateral 15 and Algodon Canal from the 100-year floodplain.
- Pump Station No. 10 – The improvements for Pump Station No. 10 include construction of a new 60 cfs pump station with a redundant pump and backup generator. The pump station will remove the water from the North Drainage Basin C Regional Detention Pond and pump the water directly to the Feather River in the vicinity of Pump Station No. 9.

In addition to the Master Plan for RD 784, a separate study was done for the Yuba County Airport. This study supplemented the RD 784 Master Drainage Plan to provide additional detail within the Airport boundaries. As of September 2006, RD 784 had not

endorsed the Yuba County Airport Master Drainage Plan but continues to work with the Airport to finalize the report. The drainage report does not provide any recommended alternative, but after review of the report it appears that Design Alternative 4 would be the best plan. This is based on the fact that Design Alternative 4 is a combination of Alternative 1 and Alternative 3, plus it considers phasing of the infrastructure. The plan consists of 1,650 feet of new 48-inch-diameter reinforced concrete pipe (RCP), 1,650 feet of new 84-inch-diameter RCP, two detention ponds, and about 6,800 feet of channel improvements to an existing ditch.

### **City of Wheatland**

The adopted Wheatland General Plan and accompanying Wheatland General Plan EIR have identified development pressure associated with planned growth in Wheatland's SOI. The General Plan EIR contains a study entitled, *Draft Drainage Report for Internal Drainage*, dated November 2005, prepared by Civil Solutions, Inc. The drainage report contains a discussion of current drainage conditions from interior runoff and discusses the potential changes that may be necessary to accommodate growth identified in the General Plan.

The current interior flooding is attributed to undersized culverts and inadequate conveyance in existing drainage canals. The report does not make any clear recommendation for improvements under current conditions. Most of the areas that do flood from interior runoff are agricultural and the temporary ponding that occurs may not be causing much damage. This report is essentially a tool to be used to ensure that future development does not worsen conditions and that future development is not flooded by interior runoff. One of four alternatives described should be selected and the infrastructure described by that alternative should be constructed as development occurs.

The General Plan EIR also contains the *External Source Flood Protection Plan*, dated October 2005, prepared by Mead and Hunt. The flood protection plan contains discussion of current flooding conditions and flood control systems, flood protection options, and cost estimates and environmental considerations.

### **6.1.3 Flood Management Projects**

Specific projects and programs have been identified that primarily support the flood management strategy in order to meet the goals and objectives outlined in this section. The projects and programs have been identified by local participating agencies and have been refined to varying levels of detail. The initial list of projects (see Table 6-1 below) was screened, ranked, and prioritized based upon the Project Screening and Ranking Process described in Section 7 to evaluate and rank all projects identified during the



development of the Yuba County IRWM Plan. Project Descriptions are provided in Appendix C – Project Descriptions.

**Table 6-1  
Flood and Stormwater Management Project Summary Table**

Project Name	Project Sponsor	Project Location (on Figure 6-1)
New Colgate Powerhouse Tailwater Depression	YCWA	F1
New Bullards Bar Outlet Capacity Increase	YCWA	F2
Levee Geotechnical Evaluation for RD 10	RD 10	F3
External Flood Source Flood Protection Projects	City of Wheatland	F4
Regional Flood Management Agency	YCWA	F5
Forecast-Coordinated Operations	YCWA	F6
Yuba County Levee Project	YCWA	F7
Bear River North Levee Rehabilitation Project	City of Wheatland	F8
Feather River Levee Strengthening (Segment 1&3)	RD 784	F9
Feather River Levee Setback (Segment 2)	RD 784	F10
New Bullards Bar Reservoir Reoperation Manual	YCWA	F11
Complete East Interceptor Canal	Yuba County	ST1
Pump Station No. 3 Reconstruction	RD 784	ST2
Edgewater Detention Pond and Pump Station Project	RD 784	ST3
Clark Slough and Clark Lateral Mitigation Project	Yuba County	ST4
Pump Station No. 1 Improvements	RD 784	ST5
Yuba County Airport Drainage Improvements	Yuba County	ST6
Pump Station No. 2 Improvements	RD 784	ST7
Chestnut Pump Station	RD 784	ST8
Hallwood Community Drainage Improvements	RD 784	ST9
Pump Maintenance	City of Marysville	ST10
Stormwater Management for North and South Grasshopper Slough	City of Wheatland	ST11
Drainage Study	RD 10	ST12
Pump Station No. 10 Construction	RD 784	ST13
Expand North Drainage Basin C Regional Detention Pond	RD 784	ST14



**TABLE 7-1 - Yuba County IRWMP Project Prioritization  
As of January 2008**

Project Identification and Categorization				Step 1 - Project Readiness			Step 2 - Project Prioritization								
PROJECTS AND DESCRIPTIONS	Agency/ Project Sponsor	Project Cost	Range of Points	Criterion 1: Meets Objectives	Criterion 2: Scientific and Technical Merit		Project Readiness	Criterion 3: Provides Public Safety and Emergency Needs	Criterion 4: Supports Integration and Multiple Water Management Strategies	Criterion 5: Serves Disadvantaged Communities	Criterion 6: Provides Statewide Benefit	Criterion 7: Funding Match		Project Prioritization Score/Status	
					5 to 10	2 to 10						Identified Available Documentation	Points		Estimated Local Match
<b>FLOOD MANAGEMENT</b>															
<b>Flood Protection Projects</b>				<b>\$1,050,240,000</b>											
F10	Feather River Levee Setback - Segment 2	TRLIA	\$149,000,000	6	10	Design Report (2007)	Ready to Proceed (Ongoing)	10	2	1	1	1	\$14,900,000	31	
F4	External Flood Source Flood Protection Projects	City of Wheatland	\$35,700,000	6	6	Flood Protection Plan (2005)	Ready to Proceed	10	1	1	0	1	\$3,570,000	25	
F3	Levee Geotechnical Evaluation for RD 10	RD 10	\$2,340,000	5	4	Problem Identification Report (2003)	Not Ready	10	1	1	0	1	\$234,000	22	
F2	New Bullards Bar Outlet Capacity Increase	YCWA	\$50,000,000	5	6	Feasibility Study (2003)	Ready to Proceed	10	1	1	0	1	\$5,000,000	24	
F1	New Colgate Powerhouse Tailwater Depression	YCWA	\$8,000,000	5	10	Design Report (2007)	Ready to Proceed	10	1	1	0	1	\$800,000	28	
F5	Regional Flood Management Agency	YCWA	\$500,000	6	2		Not Ready	6	3	1	1	1	\$50,000	20	
F6	Forecast-Coordinated Operations	YCWA	\$1,500,000				Project in Progress							Project Fully Funded and In Progress	
F7	Yuba County Levee Project	YCWA	\$750,000,000	6	4	Numerous documents	Not Ready	10	2	1	1	1	\$75,000,000	25	
F8	Bear River North Levee Rehabilitation Project	RD 2103	\$14,700,000	5	6	Flood Protection Plan (2005)	Ready to Proceed	10	2	1	1	1	\$1,470,000	26	
F9	Feather River Levee Strengthening (Segment 1 & 3)	TRLIA	\$38,000,000	5	10	Design Report (2007)	Ready to Proceed (Ongoing)	10	1	1	1	1	\$3,800,000	29	
F11	New Bullards Bar Reservoir Reoperation Manual	YCWA	\$500,000	5	2		Not Ready	10	1	1	0	1	\$50,000	20	
<b>Stormwater Management Projects</b>				<b>\$50,255,000</b>											
ST1	Complete East Interceptor Canal	Yuba County	\$5,000,000	5	4	South Yuba Master Drainage Plan	Not Ready	6	1	1	0	1	\$500,000	18	
ST2	Pump Station No. 3 Reconstruction	RD 784	\$9,000,000	5	4	Drainage Master Plan (2002)	Not Ready	6	1	1	0	1	\$900,000	18	
ST3	Edgewater Detention Pond and Pump Station Project	RD 784	\$5,100,000	5	4	Drainage Master Plan (2002)	Not Ready	6	2	1	0	1	\$510,000	19	
ST4	Clark Slough and Clark Lateral Mitigation Project	Yuba County					Project Completed							Project Completed	
ST5	Pump Station No. 1 Improvements	RD 784	\$450,000	5	4	Drainage Master Plan (2002)	Not Ready	6	1	1	0	1	\$45,000	18	
ST6	Yuba County Airport Drainage Improvements	Yuba County	\$2,100,000	5	2		Not Ready	6	1	1	0	1	\$210,000	16	
ST7	Pump Station No. 2 Improvements	RD 784	\$1,800,000	5	4	Drainage Master Plan (2002)	Not Ready	6	1	1	0	1	\$180,000	18	
ST8	Chestnut Pump Station	RD 784	\$2,140,000	5	4	Drainage Master Plan (2002)	Not Ready	6	2	1	0	1	\$214,000	19	
ST9	Hallwood Community Drainage Improvements	RD 784	\$2,265,000	5	2		Not Ready	6	1	1	0	1	\$226,500	16	
ST10	Pump Maintenance	City of Marysville	Undetermined	5	2		Not Ready	6	1	1	0	1	Undetermined	16	
ST11	Stormwater Management for North and South Grasshopper Slough	City of Wheatland	Undetermined	5	2		Not Ready	6	1	1	0	1	Undetermined	16	
ST12	Drainage Study	RD 10	Undetermined	5	2		Not Ready	6	1	1	0	1	Undetermined	16	
ST13	Pump Station No. 10 Construction	RD 784	\$8,100,000	5	2		Not Ready	6	1	1	0	1	\$810,000	16	
ST14	Expand North Drainage Basin C Regional Detention Pond	RD 784	\$14,300,000	5	2		Not Ready	6	2	1	0	1	\$1,430,000	17	