

**Flood Control Project Maintenance
Levee Inspections**

Fall 2013 Levee Maintenance Deficiency Summary Report

Overall LMA & Unit Ratings, including DWR Erosion Survey

San Joaquin River Basin

RD2091		Overall LMA Rating	Total LMA Miles						
Reclamation District No. 2091 Chase		A	7.92						
Rated Item	Maintenance Deficiency				Enforcement		Design & System Obsolescence		
	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	U Miles	
<i>Earthen Levee</i>									
Encroachments					0.03	0.01			
Flood Preparedness & Training	0.08		0.08	1.01%					
<i>LMA Totals:</i>	0.08	0.00	0.08	1.01%	0.03	0.01	0.00	0.00	
Unit No. 01 San Joaquin River RB		Overall Unit Rating	Total Unit Miles						
RD2091		A	7.59						
Rated Item	Maintenance Deficiency				Enforcement		Design & System Obsolescence		
	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	U Miles	
<i>Earthen Levee</i>									
Encroachments						0.01			
<i>Unit Totals:</i>	0.00	0.00	0.00	0.00%	0.00	0.01	0.00	0.00	
Unit No. 02 San Joaquin River NA		Overall Unit Rating	Total Unit Miles						
RD2091		A	0.33						
Rated Item	Maintenance Deficiency				Enforcement		Design & System Obsolescence		
	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	U Miles	
<i>Earthen Levee</i>									
Encroachments					0.03				
<i>Unit Totals:</i>	0.00	0.00	0.00	0.00%	0.03	0.00	0.00	0.00	

**Flood Control Project Maintenance
Levee Inspections
LMA District Cover Sheet
Fall 2013 Levee Inspection Results**

Reclamation District No. 2091 Chase

	Spring (March - May)	Summer ** (June - August)	Fall (September - November)	Winter ** (December - February)
* Overall LMA Rating (Fall Only)			A	

** Non-receipt of Summer or Winter Inspection Reports may effect overall annual rating.

* **SPRING INSPECTIONS:** Overall maintenance ratings are not determined for the spring inspection results. Individual maintenance deficiencies are rated using the same criteria in the spring and in the fall.

FALL INSPECTIONS: The overall maintenance rating shown above is based on operation and maintenance deficiencies identified within the attached unit inspection reports. This rating is not intended to be an indication of risk.

Comments

**Flood Control Project Maintenance
Levee Inspections**

Unit Cover Sheet

Fall 2013 Levee Inspection Results

Reclamation District No. 2091 Chase

Waterway	Bank	Unit Miles
Unit No. 01 San Joaquin River	Right	7.59

	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)			A	
Date of Inspection	05/09/2013 - 05/09/2013		11/05/2013 - 11/05/2013	
DWR Inspector	Richard Willoughby		Richard Willoughby	
Accompanied By	Mike Alves RD 2091		Mike Alves RD 2091	

Summer & Winter Inspections

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

<http://cdec.water.ca.gov/lma.html>

If the LMA is unable to submit information on this webpage, please contact DWR for assistance.

The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2013

Reclamation District No. 2091 Chase

Waterway		Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River		Right	7.59	11/05/2013 11/05/2013	Richard Willoughby

LMIR No.	Levee Mile		Category	Item	Location	Rating	Action/Comment	GPS Latitude/Longitude		Issue No. Photo
	Start	End						Start	End	
1	0.00	0.00	Earthen Levee	Operations & Maintenance Manuals	LS	A Ma		°	°	2
DWR ID: DWR_RD2091_01_s_2013_2										
2	0.00	0.00	Earthen Levee	Emergency Supplies & Equipment	LS	A Ma		°	°	4
DWR ID: DWR_RD2091_01_s_2013_4										
3	0.00	0.00	Earthen Levee	Flood Preparedness & Training	LS	M Ma		°	°	5
DWR ID: DWR_RD2091_01_s_2013_5										
4	0.00	7.59	Earthen Levee	Vegetation	LS	A Ma	V2 : Remove the wild growth other than native grasses from the levee slopes.	°	°	6 Y
DWR ID: DWR_RD2091_01_f_2013_6										
5	0.00	7.59	Earthen Levee	Vegetation	WS	A Ma	V2 : Remove the wild growth other than native grasses from the levee slopes.	°	°	7 Y
DWR ID: DWR_RD2091_01_f_2013_7										
6	2.23	2.30	Earthen Levee	Animal Control	LS A/W	A Ma	A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.	°	°	54
DWR ID: DWR_RD2091_01_s_2012_54										
7	4.20	4.20	Earthen Levee	Animal Control	LS A/W	A Ma	A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.	37.503555 ° -121.081932 °	37.503555 ° -121.081932 °	1
DWR ID: DWR_RD2091_01_s_2012_1										
8	7.55	7.55	Earthen Levee	Encroachments	LS	U En	DT : Ditch Inspector Comments: Ditch has been in place for several years. Ditch is 10' to 15' from the landward toe and is 15" to 20' deep.	°	°	8 Y
DWR ID: DWR_RD2091_01_f_2013_8										
9	7.55	7.55	Earthen Levee	Slope Stability	LS A/W	A Ma	S1 : Repair slope instability. Inspector Comments: Slide appears to be 100' + feet long on landside slope. Cracks are approx. 4-9" wide and 12-18" deep. Slide extends from the middle of the landside slope to landside toe. District indicated that the landowner repaired erosion/slip with no supervisor from LMA or State. No compaction results was provided. Site does appear to be stable at time of inspection, but should be monitored by LMA.	37.479203 ° -121.044695 °	37.479203 ° -121.044695 °	3 Y
DWR ID: DWR_RD2091_01_s_2012_3										

* Location LS : Land Side WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	---	---

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2013

Reclamation District No. 2091 Chase

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	7.59	11/05/2013 11/05/2013	Richard Willoughby

Levee Mile Report Line	4
Start Levee Mile	0.00
End Levee Mile	7.59
Location	Land Side
Category	Earthen Levee
Item	Vegetation

Looking north at landward slope.

richard_f_20131106_147.JPG



Levee Mile Report Line	4
Start Levee Mile	0.00
End Levee Mile	7.59
Location	Land Side
Category	Earthen Levee
Item	Vegetation

Looking south at landward slope.

richard_f_20131106_148.JPG



Levee Mile Report Line	5
Start Levee Mile	0.00
End Levee Mile	7.59
Location	Water Side
Category	Earthen Levee
Item	Vegetation

Looking south at waterward slope.

richard_f_20131106_149.JPG



<p>* Location</p> <p>LS : Land Side WS : Water Side CR : Crown</p>	<p>** Rating</p> <p>A : Acceptable M : Minimally Acceptable U : Unacceptable</p> <p>N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain</p>	<p>+ Issue Type</p> <p>Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement</p>
---	--	--

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2013

Reclamation District No. 2091 Chase

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	7.59	11/05/2013 11/05/2013	Richard Willoughby

Levee Mile Report Line	5
Start Levee Mile	0.00
End Levee Mile	7.59
Location	Water Side
Category	Earthen Levee
Item	Vegetation
Looking north at waterward slope.	
richard_f_20131106_150.JPG	



Levee Mile Report Line	8
Start Levee Mile	7.55
End Levee Mile	7.55
Location	Land Side
Category	Earthen Levee
Item	Encroachments
Looking southeast at drainage ditch at landward toe.	
richard_f_20131106_155.JPG	



Levee Mile Report Line	8
Start Levee Mile	7.55
End Levee Mile	7.55
Location	Land Side
Category	Earthen Levee
Item	Encroachments
Looking east at drainage ditch at landward toe.	
richard_f_20131106_156.JPG	



* Location LS : Land Side WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	---	---

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2013

Reclamation District No. 2091 Chase

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	7.59	11/05/2013 11/05/2013	Richard Willoughby

Levee Mile Report Line	9
Start Levee Mile	7.55
End Levee Mile	7.55
Location	Land Side
Category	Earthen Levee
Item	Slope Stability
Looking south at slide on landside slope next to irrigation ditch.	
richard_f_20130930_029.jpg	



Levee Mile Report Line	9
Start Levee Mile	7.55
End Levee Mile	7.55
Location	Land Side
Category	Earthen Levee
Item	Slope Stability
Looking southwest a slide on landside slope.	
richard_f_20130930_030.jpg	



Levee Mile Report Line	9
Start Levee Mile	7.55
End Levee Mile	7.55
Location	Land Side
Category	Earthen Levee
Item	Slope Stability
Looking at south end of slide.	
richard_f_20130930_031.jpg	



* Location LS : Land Side WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	---	---

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2013

Reclamation District No. 2091 Chase

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	7.59	11/05/2013 11/05/2013	Richard Willoughby

Levee Mile Report Line	9
Start Levee Mile	7.55
End Levee Mile	7.55
Location	Land Side
Category	Earthen Levee
Item	Slope Stability
Looking at north end of slide next to irrigation ditch.	
richard_f_20130930_032.jpg	



Levee Mile Report Line	9
Start Levee Mile	7.55
End Levee Mile	7.55
Location	Land Side
Category	Earthen Levee
Item	Slope Stability
Looking south at irrigation ditch at landside toe.	
richard_f_20130930_033.jpg	



Levee Mile Report Line	9
Start Levee Mile	7.55
End Levee Mile	7.55
Location	Land Side
Category	Earthen Levee
Item	Slope Stability
Looking south at repaired erosion/slip on landside slope.	
richard_f_20130930_034.jpg	



* Location LS : Land Side WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	---	---

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2013

Reclamation District No. 2091 Chase

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	7.59	11/05/2013 11/05/2013	Richard Willoughby

Levee Mile Report Line	9
Start Levee Mile	7.55
End Levee Mile	7.55
Location	Land Side
Category	Earthen Levee
Item	Slope Stability
Looking southeast at repaired erosion/slip on landside slope next to irrigation canal.	
richard_f_20130930_035.jpg	



Levee Mile Report Line	9
Start Levee Mile	7.55
End Levee Mile	7.55
Location	Land Side
Category	Earthen Levee
Item	Slope Stability
Looking north at repaired erosion/slip on landside slope next to irrigation canal.	
richard_f_20130930_036.jpg	



* Location LS : Land Side WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	---	---

**Flood Control Project Maintenance
Levee Inspections**

Unit Cover Sheet

Fall 2013 Levee Inspection Results

Reclamation District No. 2091 Chase

Waterway		Bank	Unit Miles
Unit No. 02 San Joaquin River			0.33
	Spring (March - May)	Summer (June - August)	(September - November) Fall Winter (December - February)
Unit Maintenance Rating (Fall Only)			A
Date of Inspection	03/13/2013 - 03/13/2013		11/05/2013 - 11/05/2013
DWR Inspector	Richard Willoughby		Richard Willoughby
Accompanied By			

Summer & Winter Inspections

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

<http://cdec.water.ca.gov/lma.html>

If the LMA is unable to submit information on this webpage, please contact DWR for assistance.

The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2013

Reclamation District No. 2091 Chase

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 San Joaquin River		0.33	11/05/2013 11/05/2013	Richard Willoughby

LMIR No.	Levee Mile		Category	Item	Location * + Rating	Action/Comment	GPS Latitude/Longitude		Issue No. Photo
	Start	End					Start	End	
1	0.03	0.03	Earthen Levee	Trim / Thin Trees	WSA/W Ma	T2 : Thin trees to allow visibility of the ground and room to flood fight.	37.482523 ° -121.051103 °	37.482523 ° -121.051103 °	1 Y
DWR ID: DWR_RD2091_02_s_2012_1									
2	0.06	0.10	Earthen Levee	Vegetation	LS A/W Ma	V2 : Remove the wild growth other than native grasses from the levee slopes.	37.482815 ° -121.050849 °	37.483306 ° -121.050302 °	2 Y
DWR ID: DWR_RD2091_02_f_2012_2									
3	0.18	0.18	Earthen Levee	Trim / Thin Trees	WSA/W Ma	T1 : Trim trees to at least five feet above ground level.	37.484342 ° -121.049848 °	37.484342 ° -121.049848 °	3 Y
DWR ID: DWR_RD2091_02_f_2012_3									
4	0.20	0.20	Earthen Levee	Encroachments	LS M En	RW : Retaining Wall Inspector Comments: Retaining walls has been in place for several years.	° °	° °	6 Y
DWR ID: DWR_RD2091_02_f_2013_6									
5	0.22	0.22	Earthen Levee	Encroachments	LS M En	EQ : Equipment Inspector Comments: Several items stored at landward toe.	° °	° °	8 Y
DWR ID: DWR_RD2091_02_f_2013_8									
6	0.25	0.25	Earthen Levee	Encroachments	LS M En	TA : Tank Inspector Comments: Water tank has been in place for several years.	° °	° °	7 Y
DWR ID: DWR_RD2091_02_f_2013_7									
7	0.27	0.27	Earthen Levee	Trim / Thin Trees	WSA/W Ma	T1 : Trim trees to at least five feet above ground level.	37.485370 ° -121.050099 °	37.485370 ° -121.050099 °	5 Y
DWR ID: DWR_RD2091_02_f_2012_5									
8	0.29	0.29	Earthen Levee	Trim / Thin Trees	LS A/W Ma	T1 : Trim trees to at least five feet above ground level.	37.485447 ° -121.049750 °	37.485447 ° -121.049750 °	4 Y
DWR ID: DWR_RD2091_02_f_2012_4									

* Location LS : Land Side WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	---	---

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2013

Reclamation District No. 2091 Chase

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 San Joaquin River		0.33	11/05/2013 11/05/2013	Richard Willoughby

Levee Mile Report Line	1
Start Levee Mile	0.03
End Levee Mile	0.03
Location	Water Side
Category	Earthen Levee
Item	Trim / Thin Trees

Looking west at tree on waterside toe and berm.

richard_f_20130930_037.jpg



Levee Mile Report Line	1
Start Levee Mile	0.03
End Levee Mile	0.03
Location	Water Side
Category	Earthen Levee
Item	Trim / Thin Trees

Looking west at untrimmed tree on waterside slope.

richard_f_20130930_038.jpg



Levee Mile Report Line	1
Start Levee Mile	0.03
End Levee Mile	0.03
Location	Water Side
Category	Earthen Levee
Item	Trim / Thin Trees

Looking west at trimmed tree on waterside toe. (Spring 2013)

richard_f_20130930_039.JPG



* Location LS : Land Side WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	---	---

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2013

Reclamation District No. 2091 Chase

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 San Joaquin River		0.33	11/05/2013 11/05/2013	Richard Willoughby

Levee Mile Report Line	2
Start Levee Mile	0.06
End Levee Mile	0.10
Location	Land Side
Category	Earthen Levee
Item	Vegetation
Looking east at typical view of tumble weeds on levee slopes.	
richard_f_20130930_040.JPG	



Levee Mile Report Line	2
Start Levee Mile	0.06
End Levee Mile	0.10
Location	Land Side
Category	Earthen Levee
Item	Vegetation
Looking east at typical view of levee.	
richard_f_20130930_041.JPG	



Levee Mile Report Line	3
Start Levee Mile	0.18
End Levee Mile	0.18
Location	Water Side
Category	Earthen Levee
Item	Trim / Thin Trees
Looking southeast at the end of the project levee.	
richard_f_20130930_042.JPG	



* Location LS : Land Side WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	---	---

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2013

Reclamation District No. 2091 Chase

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 San Joaquin River		0.33	11/05/2013 11/05/2013	Richard Willoughby

Levee Mile Report Line	4
Start Levee Mile	0.20
End Levee Mile	0.20
Location	Land Side
Category	Earthen Levee
Item	Encroachments
Looking east at retaining walls on landward toe.	
richard_f_20131106_151.JPG	



Levee Mile Report Line	4
Start Levee Mile	0.20
End Levee Mile	0.20
Location	Land Side
Category	Earthen Levee
Item	Encroachments
Looking northeast at retaining walls within the City of Modesto shooting range on landward slope and toe.	
richard_f_20131106_152.JPG	



Levee Mile Report Line	5
Start Levee Mile	0.22
End Levee Mile	0.22
Location	Land Side
Category	Earthen Levee
Item	Encroachments
Looking northeast at storage containers and abandoned vehicle at landward toe.	
richard_f_20131106_154.JPG	



* Location LS : Land Side WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	---	---

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2013

Reclamation District No. 2091 Chase

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 San Joaquin River		0.33	11/05/2013 11/05/2013	Richard Willoughby

Levee Mile Report Line	6
Start Levee Mile	0.25
End Levee Mile	0.25
Location	Land Side
Category	Earthen Levee
Item	Encroachments

Looking west at water tank on landward shoulder.

richard_f_20131106_153.JPG



Levee Mile Report Line	7
Start Levee Mile	0.27
End Levee Mile	0.27
Location	Water Side
Category	Earthen Levee
Item	Trim / Thin Trees

Looking east at trimmed tree on waterside toe.

richard_f_20130930_044.JPG



Levee Mile Report Line	8
Start Levee Mile	0.29
End Levee Mile	0.29
Location	Land Side
Category	Earthen Levee
Item	Trim / Thin Trees

Looking east at trimmed trees on landside slope and toe.

richard_f_20130930_043.JPG



* Location LS : Land Side WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
--	---	---