

**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2022

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/30/2022 03/30/2022	Makar Sokol

LM Start		Rating **	A	Issue No.	14
LM End		Issue Type +	Ma	Location *	
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Operations & Maintenance Manuals			°	°
DWR ID	DWR_RD1660_01_s_2013_14				
Comment Code					
Inspector Comment					
The LMA has the O&M manuals.					

No Photos

LM Start		Rating **	A	Issue No.	15
LM End		Issue Type +	Ma	Location *	
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Emergency Supplies & Equipment			°	°
DWR ID	DWR_RD1660_01_s_2013_15				
Comment Code					
Inspector Comment					
The LMA has adequate emergency supplies and equipment.					

No Photos

LM Start		Rating **	A	Issue No.	16
LM End		Issue Type +	Ma	Location *	
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Flood Preparedness & Training			°	°
DWR ID	DWR_RD1660_01_s_2013_16				
Comment Code					
Inspector Comment					
The LMA has completed flood fight training in 2018.					

No Photos

* Location LS : Land Side N/A : Not Applicable 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
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Unit No. 01 Sacramento River	Left	2.94	03/30/2022 03/30/2022	Makar Sokol

LM Start	0.02	Rating **	M	Issue No.	23
LM End	1.36	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			39.063049 °	39.044166 °
				-121.837841 °	-121.837012 °
DWR ID	DWR_RD1660_01_s_2022_23				
Comment Code					
V1 : Control annual grass and weeds on the levee slopes and easements.					
Inspector Comment					

No Photos

LM Start	0.02	Rating **	M	Issue No.	22
LM End	1.36	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			39.063048 °	39.044163 °
				-121.837837 °	-121.837010 °
DWR ID	DWR_RD1660_01_s_2022_22				
Comment Code					
V1 : Control annual grass and weeds on the levee slopes and easements.					
Inspector Comment					

Photo 1 of 1 : SP_2022_RD1660_8_22_20220401_00045.jpg



View of the vegetation along the waterside slope. Spring 2022.

LM Start	0.08	Rating **	M	Issue No.	27
LM End	0.08	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			39.062196 °	39.062196 °
				-121.837899 °	-121.837899 °
DWR ID	DWR_RD1660_01_f_2021_27				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					

Photo 1 of 1 : SP_2022_RD1660_8_27_20220307_00008.jpg



View of the rodent burrows along the landside slope. Fall 2021.

* Location
LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

** Rating
A : Acceptable N : Not Inspected/Rated
M : Minimally Acceptable C : Corrected
U : Unacceptable A/W : Acceptable but Monitor & Maintain

+ Issue Type
Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

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Unit No. 01 Sacramento River	Left	2.94	03/30/2022 03/30/2022	Makar Sokol

LM Start	0.14	Rating **	U	Issue No.	1
LM End	0.14	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP LMA Responsibility			39.061322 °	39.061322 °
				-121.837993 °	-121.837993 °
DWR ID	22489				
Comment Code					
Inspector Comment					
FS_ID:69282 DS_ID:22489 EP_NO: N/A Repair Type: Urgent Crossing Status: Found UCIP Comments: 04/07/2021 Record updated from Non-Urgent to Urgent. DMP internal video inspection has found pipe integrity issues. LOF of crossing is between 5 and 6. Crossing will be monitored until funding becomes available to address the issues. No permit has been identified authorizing pipe. (O.Yakimov - DWR UCIP) 10/10/2013 needs proper abandonment, opening of landside pipe almost buried. (P.Amatya - DWR UCIP) FIELD_STRUCT_DESC: 24-inch corrugated metal gravity drainage pipe through the levee, 16.4 feet below the crown. Two corrugated metal cutoff walls. Slide gate in a concrete well at the waterside (WS) toe. (IV A-Winship). USACE bench mark on the top of the headwall at the landside (LS) toe. [Additional Reference(s): DWR Levee Log, 2005 (HLM 0.14), listed as abandoned pipe. USACE Sacramento O&M Manual, Unit 133, August 1955, Revised 29 December 2016, (Station 2+07.8), listed as 24-inch pipe]. FS Date: 4/7/2021 7:30:38 AM					

LM Start	0.14	Rating **	U	Issue No.	1 (cont)
LM End	0.14	Issue Type +	Ma	Location *	

Photo 1 of 3 : UCIP_SP_2022_69282_103570.jpg



Top of Levee: View of levee crown looking downstream

Photo 2 of 3 : UCIP_SP_2022_69282_103571.jpg



Water-Side: View of levee slope looking from crown, concrete box on levee berm

* Location LS : Land Side N/A : Not Applicable 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
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/30/2022 03/30/2022	Makar Sokol

LM Start	0.14	Rating **	U	Issue No.	1 (cont)
LM End	0.14	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP LMA Responsibility			39.061322 °	39.061322 °
				-121.837993 °	-121.837993 °
DWR ID	22489				

Photo 3 of 3 : UCIP_SP_2022_69282_103569.jpg



Water-Side: Overview of levee slope and concrete box with slide gates

LM Start	1.33	Rating **	A/W	Issue No.	8
LM End	1.36	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2018 USACE Erosion Survey			39.044361 °	39.043916 °
				-121.837654 °	-121.837305 °
DWR ID	DWR_RD1660_01_s_2022_8				

Comment Code

Inspector Comment

2018 Site ID: SAC 120.6 L
 Status: Eroding
 2018 Field Notes: extended downstream
 Site History: 2009 - Erosion on levee toe where an old cobble site is failing. 2011 - Some new minor erosion. 2012 - Site extended downstream, bank is being impacted from the weight of the trees. 2013 - Minor new erosion at the toe. 2015 - Minor new erosion at toe.

Photo 1 of 2 : SP_2022_RD1660_8_8_20220307_00003.jpg



USACE 2018 Erosion Photo #1

* Location LS : Land Side N/A : Not Applicable 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
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Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/30/2022 03/30/2022	Makar Sokol

LM Start	1.33	Rating **	A/W	Issue No.	8 (cont)
LM End	1.36	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2018 USACE Erosion Survey			39.044361 °	39.043916 °
				-121.837654 °	-121.837305 °
DWR ID	DWR_RD1660_01_s _ 2022_8				

Photo 2 of 2 : SP_2022_RD1660_8_8_20220307_00004.jpg



USACE 2018 Erosion Photo #2

LM Start	1.71	Rating **	M	Issue No.	28
LM End	1.94	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			39.040751 °	39.038518 °
				-121.832073 °	-121.828993 °
DWR ID	DWR_RD1660_01_s _ 2022_28				
Comment Code					
V1 : Control annual grass and weeds on the levee slopes and easements.					
Inspector Comment					

No Photos

LM Start	2.01	Rating **	M	Issue No.	29
LM End	2.88	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			39.037627 °	39.027363 °
				-121.828550 °	-121.821838 °
DWR ID	DWR_RD1660_01_s _ 2022_29				
Comment Code					
V1 : Control annual grass and weeds on the levee slopes and easements.					
Inspector Comment					

No Photos

* Location LS : Land Side N/A : Not Applicable 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
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Unit No. 01 Sacramento River	Left	2.94	03/30/2022 03/30/2022	Makar Sokol

LM Start	2.01	Rating **	M	Issue No.	30
LM End	2.86	Issue Type +	Ma	Location *	LS
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Vegetation		39.037587 °	39.027739 °	
			-121.828543 °	-121.821806 °	
DWR ID	DWR_RD1660_01_s_2022_30				
Comment Code					
V1 : Control annual grass and weeds on the levee slopes and easements.					
Inspector Comment					

No Photos

* Location LS : Land Side N/A : Not Applicable 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
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Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/30/2022 03/30/2022	Makar Sokol

LM Start	0.02	Rating **	M	Issue No.	3	
LM End	0.02	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP LMA Responsibility			39.033214 °	39.033214 °	
				-121.743541 °	-121.743541 °	
DWR ID	22495					
Comment Code						
Inspector Comment						
FS_ID:69307 DS_ID:22495 EP_NO: 10020 Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: 04/01/2021 Record updated from No Action Needed to Non-Urgent. No permit has been identified authorizing pipe. Need to have CVFPB review ABO and determine current owner. DMP internal video inspection has not found pipe integrity issues. LOF of crossing is less or equal to 4. Recommend next video inspection in 5 years. (O.Yakimov - DWR UCIP) 10/10/2013 Pipe/opening not visible as it was submerged into water on both sides. It seems that 36-inch concrete pipe through the levee. It needs confirmation from LMA/DWR Inspector. USED bench mark on landside concrete vault. (P.Amatya - DWR UCIP) FIELD_STRUCT_DESC: [Reclamation District No. 1660 (RD1660) Drainage Pump] 48-inch by 84-inch reinforced concrete outfall structure through the levee, 34 feet below the crown. Slide gate in a 4-foot by 8-foot concrete riser on the waterside (WS) slope. (4-foot by 7-foot concrete culver outfall [HLM 0.03] authorized under Automatic Board Order (ABO) issued as Permit No. 10020, 1974 - Leo Bandoni, care of John Digardi). [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M Manual, Unit 133, August 1955, Revised 29 December 2016, (Station 910+87), listed as 7.5 x 6 -feet concrete culvert. USACE As-Built Drawing No. 50-04-1814, Sheet 2, Station 910+87, June 1940, listed as 7.5 x 6 -foot concrete culvert]. FS Date: 4/1/2021 9:47:28 AM						

Photo 1 of 3 : UCIP_SP_2022_69307_103651.jpg



Top of Levee: View of levee crown looking upstream

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Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/30/2022 03/30/2022	Makar Sokol

LM Start	0.02	Rating **	M	Issue No.	3 (cont)
LM End	0.02	Issue Type +	Ma	Location *	
Category	Supplemental		GPS Latitude/Longitude		
			Start	End	
Item	DWR UCIP LMA Responsibility		39.033214 °	39.033214 °	
			-121.743541 °	-121.743541 °	
DWR ID	22495				

Photo 2 of 3 : UCIP_SP_2022_69307_103649.jpg



Land-Side: View of levee slope looking from crown, irrigation canal on landside

LM Start	0.02	Rating **	M	Issue No.	3 (cont)
LM End	0.02	Issue Type +	Ma	Location *	

Photo 3 of 3 : UCIP_SP_2022_69307_103648.jpg



Water-Side: View of levee slope looking from crown, concrete box with slide gate on levee slope

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/30/2022 03/30/2022	Makar Sokol

LM Start	9.07	Rating **	M	Issue No.	14
LM End	9.07	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP LMA Responsibility			39.136861 °	39.136861 °
				-121.833974 °	-121.833974 °
DWR ID	22505				

Comment Code

Inspector Comment

FS_ID:69337
DS_ID:22505
EP_NO: 10021
Repair Type: Non-Urgent
Crossing Status: Found
UCIP Comments: 04/08/2021 Record updated from No Action Needed to Non-Urgent. No permit has been identified authorizing pipe. Need to have CVFPB review ABO and determine current owner. DMP internal video inspection has not found pipe integrity issues. LOF of crossing is less or equal to 4. Recommend next video inspection in 5 years.
(O.Yakimov - DWR UCIP)
10/15/2013 Inlet structure 160 ft off the levee center on landside drainage ditch. (P.Amatya - DWR UCIP)
FIELD_STRUCT_DESC: 48-inch steel gravity drainage pipe through the levee, 29 feet below the crown. Concrete headwall and inlet pipe at bottom of drainage ditch on landside approximately 160 feet from levee. Slide gate and concrete bulkhead on the riverbank. Staff gage on the waterside (WS) berm. (48-inch pipe authorized under Permit No. 519, 1931 - McGrath Bros. et.al). (48-inch pipe [HLM 9.09] authorized under Automatic Board Order (ABO) issued as Permit No. 10021, 1974 - Butte Slough Irrigation Company, care of Tarke Warehouse).
[Additional Reference(s): DWR Levee Log, 2005 (HLM 9.09). USACE Sacramento O&M Manual, Unit 133, August 1955, Revised 29 December 2016, (Station 433+43), listed as 48-inch pipe. USACE As-Built Drawing No. 50-04-1819, Sheet 1, Station 433+43, June 1940].
FS Date: 4/8/2021 1:13:46 PM

LM Start	9.07	Rating **	M	Issue No.	14 (cont)
LM End	9.07	Issue Type +	Ma	Location *	

Photo 1 of 3 : UCIP_SP_2022_69337_103745.jpg



Top of Levee: View of levee crown looking downstream

Photo 2 of 3 : UCIP_SP_2022_69337_103744.jpg



Land-Side: View of levee slope looking from crown. Drainage ditch on landside

* Location LS : Land Side N/A : Not Applicable 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
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/30/2022 03/30/2022	Makar Sokol

LM Start	9.07	Rating **	M	Issue No.	14 (cont)
LM End	9.07	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP LMA Responsibility			39.136861 °	39.136861 °
				-121.833974 °	-121.833974 °
DWR ID	22505				

Photo 3 of 3 : UCIP_SP_2022_69337_103747.jpg



Land-Side: Vertical pump in drainage ditch. Doesn't seem to be relating to this crossing

* Location LS : Land Side N/A : Not Applicable 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
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