MBK ENGINEERS

Water Resources • Flood Control • Water Rights

MEMORANDUM

July 20, 2022

TO: Reclamation District No. 756

FROM: Nathan Hershey

SUBJECT: **July 2022 Engineer's Report**

Described below are the engineering items to be discussed at your July 20, 2022 meeting.

Subventions 2021-22 – The District submitted an application for participation in the Program in the amount of $631,000. An additional $2 million was recently approved by the Central Valley Flood Protection Board, for a total of $12 million approved for the Program for FY 2021-22.

Subventions 2022-23 – The District submitted an application for participation in the Program in the amount of $631,000. $12 million was recently approved by the Central Valley Flood Protection Board for the Program for FY 2022-23.

Annual Maintenance – Attached are the current maintenance items we are tracking.

Regional Flood Fight Supply Depot – Construction of the flood fight supply depot began on Monday, July 11. The District's two large containers have been moved to a newly constructed pad next to the tule pools by the District office. The contractor is currently performing cut/fill grading and compaction in preparation for fabric installation and imported AB placement. The pad is scheduled to be complete by August 1, with the security fence being installed shortly thereafter.

Special Projects – The District is preparing for construction of the Directed Action project to rehabilitate the north levee (BO-19-1-SP). The Project SOW has been approved by DWR, and the District has received advance funds for construction. Design plans and specifications have been completed. The District has received a draft Lake or Streambed Alteration Agreement (LSAA) from CDFW. We are working with CDFW on resolving a few comments. We recommend the District sign the LSAA pending resolution of our comments. The Project was bid on July 8th and the low bidder was Sukut Construction with a bid of $11,821,525. A summary of the bid results was transmitted via email. Based on coordination with the District and DWR, a notice of award was issued to Sukut Construction on July 13th. Once a contract is fully executed, we will issue notice to proceed, hold a pre-construction meeting, and begin coordinating construction activities with the Contractor.

Five Year Plan – Work on the Five-Year Plan is currently in progress. A draft of the plan has been distributed via email and we have incorporated the comments received to date. We have also sent a draft to DWR staff for review and comment. DWR has extended the expiration date of the funding agreements to December 31, 2022. At DWR's request, we submitted the anticipated total cost of improvements for their planning purposes.

SB 88 – Work under Phase 4 of the measurement experiment is underway. The equipment was inspected by MWD, MBK, and Gornto Ditching on June 7th. Gornto Ditching will likely require additional time to install

all the equipment due to their current workload. Despite this, the Phase 4 flow meter installations are estimated to be completed before the end of 2022. MBK has conducted visits to the 25 proposed sites and will work with Gornto Ditching to complete preparations at each site for the flow meter installations. MBK is developing quality control and storage protocols for flow data that will be collected by the installed meters.

After the completion of Phase 4, there will be approximately 50 siphons without a flow meter. MBK and MWD are planning to work with Bovee Environmental Management to test any of these sites that are suspected to contain asbestos or a tar coating on the pipe exterior. Any sites that test positive for these hazardous materials will be abated by W.C. Maloney during 2022-2023 prior to any flow meter installation.

MWD and the RDs are in compliance for calendar year 2022 under an approved extension of time. The extension was approved by the Delta Watermaster on January 13th, 2022 and will expire on January 1st, 2024. The extension of time included a Plan for Compliance which provides details regarding the methods to estimate diversions on siphons without flow meters and provides a measurement equipment installation schedule. MWD currently anticipates that installing all the flow meters will take five years. Therefore, MBK has provided cost estimates for flange magnetic meters with telemetry equipment installed on the water side of all active siphons.

Development of the Delta-wide ACP by the Delta Measurement Experiment Consortium to utilize Open ET for measuring and reporting diversions continues. Place of use polygons for each island have been completed and will be used in conjunction with Open ET to report on diversions. MBK and MWD continue to participate in the Consortium.

Reclamation District No. 756 Bouldin Island

Issue Tracking Summary

7/15/2022

IssueID	Priority	Report Date	Reporter	Location	Issue Type	Description	Action	Field Notes
23	Low	2/11/2017	JaimeBarajas	Station 859	Boil	Boil on lower levee slope/toe; running at high tide	Monitor	25 LF core trench along WS hinge to depth of 8'; no pipe or water encountered; backfilled with native material.
24	Low	2/11/2017	JaimeBarajas	Station 924+10	Boil	Boil on lower levee slope/toe; running at high tide	Monitor	40 LF core trench along WS hinge to depth of 8'; encountered water seeping from landside trench wall at 8' depth; backfilled with native and imported dry fill; Drainage ditch to be cut along Caltrans access roadway from Sta 926 to Sta 2 to relieve ponding. Work to be done by Sierra Cattle.
34	Low	2/20/2017	NateHershey	Station 813	Encroachment	Siphon may be low	Monitor	8/14/17 - Waterside top of pipe = 7.2; 100 yr. flood = 7.6; 12" siphon; pipe is low; Continue to Monitor
41	Medium	3/28/2017	RalphHeringer	Station 544-549	Crack	Cracking in LS Slope; seepage and cattails at toe	Monitor	Monitor and discuss repair; 10/23/17 Levee crown trenched; no encroachments located, Area to be graded and prepared for flood season; will proceed under Special Projects upon receipt of PFA. 12/4/17 - grading complete

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41.1		4/24/2020	NateHershey					Reviewed the site area. Area appears to be moving again - not as dramatic as in 2017, but it appears to be along the same fault lines. Seepage observed exiting the surface. Recommend performing an updated survey and developing an action plan.
53	Medium	8/11/2017	NateHershey	Station 324	Seepage	Seepage at toe of 3 to 1 slope	Monitor	Monitor
54	Medium	8/11/2017	NateHershey	Station 336	Seepage		Monitor	Monitor; The hole is shallow at about 1-2 inches deep.
63	Medium	3/23/2018	RussRyan	Station 72	Crack	Longitudinal crack on land side slope near toe of Levee. Crack runs several hundred feet parallel to Levee road. See photos.	Repair	Investigate and monitor; It's clear to me that there is differential settling after slope vegitation was cleared.
74	Low	1/5/2019	RussRyan	Land side within 150 foot Levee footprint. See attached phots. Low wet areas.	Other,Sinkhole	Bouldin Island - West stretch length adjacent to Mokelumne River. See attached photos for exact location.	Investigate	See notes above.
88	Low	6/7/2019	Dave Forkel	Sta 382+00	Seepage	Seepage on side of levee.	Investigate	
94	Low	9/27/2019	Brian Janowiak	Lower toe	Other, Settlement	Area along lower toe near seepage ditch by Floeida tip appears to have settled.	Monitor	
96	Medium	4/22/2020	RussRyan	Between 630 and 640	Seepage	Appears to be seepage	Investigate	
104	Medium	11/19/2020	DaveForkel	Sta 426+00	Sloughing	Waterside crack about 100 ft total, spread over 3-4 sites	Repair	
106	Medium	12/17/2020	RussRyan	Bouldin Island (see photo for location)	Crack	Levee crest road crack (towards water side). Crack length is about 7 step paces (Russ Ryan) and depth is unknown.	Monitor	
107	Medium	12/17/2020	RussRyan	See photos	Seepage	Just inside levee footprint on land side of toe drain there water ponding. Was there prior to any rain this season during dry period.	Monitor	See photos taken on site.

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108	Medium	7/8/2021	RussRyan	Station 90	Crack	Cracking observed on landside slope. Unclear if this is a result of the earthquake event.	Monitor	
109	Medium	7/8/2021	RussRyan	Station 226	Sloughing	Potential landside settlement on toe berm. Unclear if this is earthquake related.	Monitor	
110	Medium	7/8/2021	RussRyan	Station 503	Sloughing	Landside disturbance. Unclear if earthquake related or due to sheep activity.	Monitor	
111	Medium	8/30/2021	MichaelNishimura	Station 681+20	RodentActivity,Other	Beaver den located on lower 1/3 of waterside slope and is approximately 11’ (slope distance) from waterside hinge. Beaver den has a 2.5’ wide and 1.5’ high opening, the base of den is approximately 2.5’ in diameter for approximately 7 cubic foot den in levee. Den is covered with brush and is viewable from the waterside toe. The existing revetment in the area is crushed concrete and it appears that a gap in the revetment is where the den was created. The den does not appear to go deeper into levee more than what was described.	Monitor	
112	Medium	1/10/2022	DaveForkel	Sta 345+00	Crack	Erosion in top of the levee at crack.	Repair	Should be excavated and repaired.
113	Medium	1/14/2022	RussRyan	Sta 105	Crack	Longitudinal crack located on levee crest road on hinge point to water side slope. The crack was measured with tape measured at 49 ft/50 ft total length along 4 segments.	Repair	Need to repair as future rainy weather may open cracks further that could potentially lead to sloughing into river.
115	High	1/14/2022	RussRyan	Sta 96	RodentActivity	Land side approx 3-5 feet below crest road elevation. See attached photo map.	Repair	Appears a deep rodent den.

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7/15/2022

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116	Medium	2/21/2022	RussRyan	Sta 548	Seepage	Noticeable standing water at toe of levee at the same 2017 slippage event.	Investigate	Need Geotech investigation and assessments.
117	Low	2/23/2022	RussRyan	Sta 639	Seepage	Landside water ponding present at toe of levee.	Investigate	Roughly an estimated 30 feet by 10 feet. Dimensions need to be verified in field investigation.
118	Medium	3/31/2022	DaveForkel	Sta 495+00	Erosion	Rock has slipped.	Repair	
119	Medium	7/7/2022	AndrewReece	Station 39	Crack		Repair	