

MEMORANDUM

March 17, 2021

TO: Reclamation District No. 756

FROM: Nathan Hershey

SUBJECT: **March 2021 Engineer's Report**

Described below are the engineering items to be discussed at your March 17, 2021 meeting.

Subventions 2019-20 – The District submitted an application for participation in the Program in the amount of \$750,000. DWR has lowered the Program funding amount to \$10 million for FY 2019-20. The District submitted a claim in the amount of \$213,176.91 for the fiscal year.

Subventions 2020-21 – The District submitted an application for participation in the Program in the amount of \$1,595,000. \$12 million has been approved for Program funding for FY 2020-21.

Subventions 2021-22 – Applications are due April 1. Attached is a draft application for the upcoming fiscal year. If acceptable, we will submit the application on behalf of the District. DWR has informed us they will be seeking \$10 million for the Program for FY 2021-22.

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

Flood Fight Supplies – The District has an opportunity to acquire flood fight supplies through a DWR grant with San Joaquin County. Details were distributed via email on February 25. Eligible items will be fully reimbursed up to \$15,000 for each participating district. The County has asked districts to submit the reimbursement documentation prior to June 1.

Regional Flood Fight Supply Depot – The District has signed a MOA with Sacramento County to move forward with development of a regional flood fight supply depot. We have developed a preliminary site layout and are working on the logistics of developing the depot.

Special Projects – DWR has renewed the offer of State funding for the levee setback and habitat enhancement project on the west levee. The District responded with an acceptance letter and we are waiting to receive the funding agreements for signature.

The District received an advance of funds for design of the Directed Action project to rehabilitate the north levee. We have started work on the design and are moving forward in anticipation of construction. We are working through various design related issues and are developing the plans and specifications. We have requested the construction funding from DWR for the project. DWR has indicated their preference is to amend the existing funding agreement to allow for construction rather than issue a new funding agreement.

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 many of 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, 2021.

SB 88 – Work under Phase 3 of the measurement experiment (Feb. 2020 through Feb. 2021, and currently being extended) is underway. Phase 3 efforts primarily involve installing 8 additional flange magnetic meters on the water side of the highest use siphons, with at least one flow meter on each island. MWD has received the new equipment which is currently stored on Bacon Island. A pre-bid walk through on Bouldin Island with representatives from MWD, MBK Engineers, Asta Construction, Eaton Pumps, and Gornto Ditching occurred on March 3rd, 2021. MWD is accepting bids until March 16th from the contractors and then will select a contractor and proceed with scheduling installation of the Phase 3 equipment.

MWD and the RDs are in compliance for calendar year 2021 under an approved extension of time. Current direction by MWD is to proceed with strict compliance. Therefore, MBK is currently developing a draft plan for compliance, which will include a combination of flange magnetic meters installed on the water side for the largest and highest use siphons and alternative measurement methods at the smaller, less frequently used siphons.

Development of the Delta-wide ACP by the Delta Measurement Experiment Consortium to utilize Open ET for measuring and reporting diversions continues. MBK and MWD continue to participate in the Consortium and will provide feedback on the future development of this ACP as needed. The next Consortium meeting is scheduled for April 29, 2021.

RECLAMATION DISTRICT NO. 756 – BOULDIN ISLAND
DELTA LEVEES MAINTENANCE SUBVENTIONS PROGRAM APPLICATION

MARCH 2021

TOTAL AMOUNT REQUESTED 2021-2022: \$631,000

District Summary

The levee system surrounding Bouldin Island is under the jurisdiction of Reclamation District No. 756 (District). The 17.95 miles of non-project levees includes 3.92 miles along Little Potato Slough, 4.53 miles along the right bank of Potato Slough, 0.66 mile along the right bank of the San Joaquin River, 3.99 miles along the left bank of the Mokelumne River, and 4.85 miles along the left bank of the South Fork Mokelumne River (**Sheet 1**).

The District was formed in 1904 to maintain the levee system that protects 6,006 acres of agricultural land¹, 20 residents, local infrastructure, and on-island assets. The levee also protects State Highway 12, one of the main corridors through the Delta.

Financial Information and Method of Assessment

The District obtains revenues primarily through property assessment. The District has the ability to assess landowners up to \$473,777.00 each year. The District uses the assessment to pay for District operations, levee maintenance and levee rehabilitation. Assessment rates are determined by dividing the total benefit by the number of Benefit Units (BUs) in order to determine an assessment rate per BU. The base rate for the benchmark Vacant/Open Range parcel is set at \$66.85 per year per acre. Rates for other types of parcels are based upon relative replacement costs. As of June 30, 2020, the District's liabilities total \$476,750. See page 6 of the audit report for additional information regarding the District's long-term obligation. The District does not receive any ad valorem property tax.

Work Plans

Long-Range Plan

The District submitted its Five Year Plan to DWR in February 2011, which includes its maintenance and rehabilitation plans, target dates, cost estimate, centerline profiles and cross-sections. The District did not include a listing of encroachments; it does have a list of locations by station and maintains a current list of elevations. The encroachment listing is on file with the District and will be updated for the District survey. Since 2012, the District has worked towards meeting their goal to improve the levees. The District exceeds the HMP minimum criteria. The District is currently updating its Five-Year Plan.

¹ Sacramento San Joaquin Delta Atlas, Department of Water Resources, 1995

Annual Routine Maintenance Plan

The District plans to continue its routine maintenance practices, which it has done consistently for a number of years, as evidenced by the current state of the levee system. Routine tasks include levee patrol; rodent control; all weather roadway repairs; repair of minor subsidence sloughing or slipouts; debris removal; drain and toe ditch cleaning; vegetation control; waterside slope protection; flood emergency planning and preparation; removing or modifying encroachments; surveying; engineering services; and other maintenance and permitting as needed.

The District has executed a Routine Maintenance Agreement (RMA) (#II-065-91) under Section 1600, et seq., of the California Department of Fish and Wildlife (CDFW) Code. This RMA defines the District's maintenance work on the waterside of the levee.

District staff patrols the levee daily. The District's Superintendent conducts periodic inspections when something is found during the routine patrols. If applicable, a levee maintenance inspection report for non-project levees will be prepared for reimbursement of inspection-related expenses in accordance with the reporting guidelines provided in Appendix D of the Guidelines.

The District will exterminate burrowing rodents and fill the burrows with compacted material, on an as needed basis. As designated by CDFW, no filling of burrows in burrowing owl areas shall take place during the period of March 15 through August 15, with the exception of the filling of beaver and muskrat dens near the waterline. Application of County-permitted and restricted bait materials, or any other approved method of rodent eradication, shall be done in accordance with labeled instructions and regulations.

The District will repair, grade, and shape the levee crown as needed, so that the levee crown will maintain a uniform shape, resulting in the drainage of water equally throughout the surface, and eliminating the risk of pocketing or excessive runoff locations. Levee patrol road areas require placement of all-weather road surfacing for wet weather accessibility. Work will be performed in a manner that will keep dust to a minimum and prevent siltation from impacting the adjacent waterways. The weight and speed of all vehicles using the patrol or levee access roads shall be restricted.

A seepage/irrigation ditch is located near the levee toe extending almost the entire perimeter of Bouldin Island. Typically, the seepage/irrigation ditch is 6 feet wide at the bottom, 10 feet wide at the top, and ranges from 5 to 10 feet in depth. Ditches are cleaned by removing silt deposited at their bottom. Ditch cleaning is likely to occur in the late fall, or weather permitting, during the winter. Each year, portions of the levee toe are cleaned, however the cleaning takes place over the course of a three-year period.

District vegetation control is completed through a combination of spraying, hand and mechanical clearing, grazing and burning. Spraying is performed using land-based equipment applying herbicide to the crown, waterside slope, and landside slope where needed to control noxious

vegetation. The District uses hand tools, discs, choppers, brush hogs, grazing or small-scale burning to remove noxious vegetation.

The District's RMA for controlling vegetation on the waterside slopes includes, but is not limited to the following additional conditions:

- To protect ground nesting birds and other breeding wildlife species, herbicides may not be applied between March 15 and July 1.
- Soil sterilants may only be applied to control *Arundo donax*.
- Removal of branches, stems, and shoots of weeds, brush, berry vines, and shrubs may be removed except between March 15 and June 30.
- Except between March 15 and June 30, the District may remove trees under 2 inches and over 18 inches in diameter at diameter breast height (DBH). Roots must remain in place when removing trees under 2 inches in diameter at DBH. Removal of trees over 18 inches in diameter at DBH require special permission; if permission is granted, the roots may be removed.

The District repairs waterside erosion when required.

The District has an approved Emergency Operation Plan, and in 2016, flood supplies were procured, which the District maintains on an ongoing basis.

As needed, the District may remove, raise, or modify encroachments that endanger the levee or interfere with levee maintenance; survey the levee; and replace missing station markers to ensure there are station markers at least every one-half mile or 2,500 feet.

The routine maintenance of the levee 2021-2022 will likely consist of the following items along with the estimated cost.

Annual Routine Maintenance Items	Estimated Cost (\$)
Levee Patrol	60,000
Rodent Control	5,000
All Weather Road	25,000
Subsidence, Sloughing, and Slipouts	50,000
Debris Removal	10,000
Seepage Control	10,000
Clean Drains and Toe Ditches	50,000
Vegetation Control	30,000
Waterside Slope Protection	50,000
Flood Planning and Preparation	10,000
Remove or Modify Encroachments	50,000
Surveying	5,000
Engineering	50,000

Misc. (gates, signage, etc.)	20,000
Environmental (CDFW permits, etc.)	1,000
Total Routine Maintenance	\$426,000.00

Rehabilitation Plan

Multiple sites may require rehabilitation during the fiscal year. Details regarding limits of work will be finalized prior to construction.

Rehabilitation Items	Estimated Cost (\$)
Rehabilitation Work	105,000
Environmental Documentation (CDFW, CEQA, etc.)	100,000
Total Rehabilitation	\$205,000.00

Compliance with Applicable Laws

The District will abide by all applicable laws including, but not limited to, labor compliance and mileage reimbursement rates.

- All work, subject to labor compliance laws, will be required to meet the Department of Industrial Relations Labor Compliance Program requirements.
- The District acknowledges that reimbursement of automobile mileage, as it relates to eligible work, will follow the prevailing Federal Standard Mileage Rate for the cost of operating an automobile.

Environmental Compliance

The District has concluded that its long-range, routine maintenance practices and levee rehabilitation are Categorically Exempt under the California Environmental Quality Act (CEQA). The District will file a Notice of Exemption with San Joaquin County to that effect.

The District's work activities, for the fiscal year of the application, will be carried out in a manner consistent with the requirements set forth under California Water Code (CWC) Section 12987. The District does not anticipate habitat impacts that would result in a net long-term loss of habitat; therefore, no mitigation is planned. If habitat impacts associated with levee maintenance activities occur, the District will mitigate the impacts to meet the requirements of CWC Section 12987. The District proposes, and hereby requests, to utilize the programmatic enhancement habitat credits, if necessary. The District will comply with the net habitat improvement mandates of the CWC Section 12987.

The District's maintenance plan complies with the California Endangered Species Act, the Federal Endangered Species Act, and California Fish and Game Code § 1600 et seq., regarding Lake and Streambed Alteration Agreements.

The District's maintenance plan is consistent with the Clean Water Act, and the Rivers and Harbors Act, as administered by USACE.

Minor erosion repair may be performed under a project specific, or a RMA CDFW Streambed Alteration Agreement, and/or USACE Nationwide Permit, depending on repair requirements. All applicable parties will be informed of the activity as required.

The District will notify responsible and trustee agencies of any actions that fall within these agencies' jurisdiction as required by law.

Federal Disaster Assistance

In any given year, the District's expectation is to be ready for potential emergency operations during the flood season. While the District is unable to predict the potential outcome in a given year, there is always the potential for emergency flood fighting, and subsequent levee repairs and rehabilitation. In the case that an emergency (federal, state or local) occurs, the District will properly administer the emergency and seek reimbursement for eligible expenses through all available programs including under PL 93-288. If federal assistance is unavailable, the District will coordinate with the Delta Levees Maintenance Subventions Program for possible reimbursement.



NL/nh

4125.6 SUBVENTION APPLICATION 2021-2022



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**RECLAMATION DISTRICT NO. 756
 BOULDIN ISLAND**

SUBVENTIONS 2021-2022

SCALE:	1" = 4000'
JOB NUMBER:	4125.6
DRAWN BY:	MN
DATE:	02/19/2021
SHEET:	1 OF 1

Reclamation District No. 756 Bouldin Island

Issue Tracking Summary

3/12/2021

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

Reclamation District No. 756 Bouldin Island

Issue Tracking Summary

3/12/2021

IssueID	Priority	Report Date	Reporter	Location	Issue Type	Description	Action	Field Notes
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 vegetation was cleared.
74	Low	1/5/2019	RussRyan	Land side within 150 foot Levee footprint. See attached photos. Low wet areas.	Other,Sinkhole	Bouldin Island - West stretch length adjacent to Mokelumne River. See attached photos for exact location.	Investigate	See notes above.
86	Medium	5/7/2019	Brian Janowiak	Sta 845+00 to 846+00 between toe road and seepage ditch	Seepage	Seepage between toe road and seepage ditch appeared last week. Does not appear to be tidally influenced and a point source was not located. Additional minor wet spots observed between Sta 841+00 and 843+00. No known history of seepage at this location.	Repair	District (Dave, Russ, Ralph) to review site on 5/10. Exploratory trenching will likely be required. Perform trenching when convenient as long as site does not change or worsen.
86.1		5/10/2019						Looks like seepage is drying up.
88	Low	6/7/2019	Dave Forkel	Sta 382+00	Seepage	Seepage on side of levee.	Investigate	

Reclamation District No. 756 Bouldin Island

Issue Tracking Summary

3/12/2021

IssueID	Priority	Report Date	Reporter	Location	Issue Type	Description	Action	Field Notes
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	
95	Medium	3/16/2020	DaveForkel	Sta 500+00	Other	Abandoned houseboat almost completely destroyed	Monitor	Sheriff contacted
96	Medium	4/22/2020	RussRyan	Between 630 and 640	Seepage	Appears to be seepage	Investigate	
99	Medium	7/28/2020	RussRyan	Between Sta 20+00 and St 40+00.	Sinkhole	An 18" diameter pot hole on levee crest road closer to waterside slope.	Repair	Will need to investigate extent of below surface voids below sink.
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.
109	Medium	2/8/2021	NateHershey	Camp 5 pump station	Seepage	Water reported coming through the levee.	Repair	It was determined the cause of the seepage is due to the pipe leaking when pump 3 is on. Source of water traced to the pipe going through the levee. Video is available. Recommend repair of pipe.

Reclamation District No. 756 Bouldin Island

Issue Tracking Summary

3/12/2021

IssueID	Priority	Report Date	Reporter	Location	Issue Type	Description	Action	Field Notes
110	High	2/8/2021	NateHershey	Station 849	Boil,Seepage,Sinkhole	Water reported coming through the levee at Station 849. A site investigation revealed there are several sinkholes on the 3 to 1 land side slope. Standing water observed in the sinkholes and on the toe berm. Appears to be an old pipe somewhere in the levee. Contractor mobilizing equipment to trench and locate encroachment.	Investigate	
110.1		2/9/2021	MikeKynett					1.5" dia. threaded metal pipe encountered at a depth of 12 ft.; 20 LF removed. A second 2" dia. metal pipe located while excavating in landside slope; depth = 8-10 ft.; pipe too deep to excavate with backhoe; excavator mobilized and trenching to resume 2/10
110.2		2/19/2021	Brian Janowiak					Located 2" pipe at 13' depth in WS hinge trench. Removed five 3-4' pieces of pipe. Located same 2" pipe at 11' depth in upper LS slope trench. Removed another 3' piece of pipe. Backfilled and compacted all disturbed areas. One small piece of pipe remains between levee CL and LS hinge.