

MEMORANDUM

February 12, 2020

TO: Reclamation District No. 756

FROM: Nathan Hershey

SUBJECT: February 2020 Engineer's Report

Described below are the engineering items to be discussed at your February 12, 2020 meeting.

Subventions 2018-19 – The District submitted an application for participation in the Program in the amount of \$845,000. \$12 million has been approved for Program funding for FY 2018-19, consistent with recent previous years. The District's final claim was submitted in the amount of \$253,623.03. DWR and CDFW have performed their annual inspection and the claim is currently being processed.

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.

Subventions 2020-21 – Applications for participation in the Program are due April 1. We will be working on a draft of the application and will submit the final package prior to the deadline.

Annual Maintenance – Attached are the current maintenance items we are tracking. We have reviewed the status of the stationing paddles on the island. Six paddles have been damaged and need to be replaced. The paddles are scheduled to be replaced later this month.

Special Projects – The District submitted a full application for a project under DWR's 2016 Projects Solicitation Package (PSP) for Multi-Benefit Projects. The full application proposed a project between Stations 500 and 540 that would create a habitat bench and set the levee back, while also relocating the District's Camp 5 pump station, moving it further landward. Subsequently, we requested an expansion of the project area to include rehabilitation from Stations 540-550. We have received a funding agreement for the work, and DWR has responded to our inquiry about eligibility of relocating the pump station. Removal of the existing pump station is an eligible cost (95% State share), and the new pump station will be eligible for 50% State share. Our recommendation is to move forward with the funding agreement and begin project planning.

We submitted a Full Application for a Directed Action project to rehabilitate the north levee in January 2019. DWR has agreed to fund the project design and the District has signed the funding agreement for the non-construction portion of the project. Once the agreement is fully executed, we can begin work on the design.

Five Year Plan – Work on the Five-Year Plan is currently in progress. The proposed project phasing exhibit is attached, with a general goal of building all new projects to the State's Bulletin 192-82 levee standard. Areas recently rehabilitated would be raised to the 192-82 standard after the proposed rehabilitation projects are complete. The Plan must be completed by the end of 2020.

SB 88 – Work under Phase 2 of the measurement experiment (work plan for 2019 through Feb 2020) is wrapping up. All of the data collected through the summer irrigation season has been reviewed and analyzed. Review of data collected this fall and winter has begun. MBK has prepare a draft Report to update last year's experiment summary report. A draft of the Report will be provided to MWD as soon as possible, with the intent to finalize by the end of February.

On behalf of MWD and the RDs, MBK submitted a Request for Additional Time (Request) to the Delta Watermaster on January 3, 2020. On February 6, 2020, MBK received approval for the Request from John Collins of the Delta Watermaster's office. The approval states that the newly approved Request will expire on January 1, 2021, and that if additional time is required, another Request should be submitted no later than December 1, 2020.

MBK has drafted a workplan for 2020 efforts, as outlined in the Request. The workplan primarily involves installing 8 additional flange magnetic meters on the water side of the highest use siphons, with at least one flow meter on each island. A preliminary list of sites to install flange magnetic meters has been identified. These sites will include telemetry equipment, with the intent to post data to the Reclamation District websites for each island. Approximate costs for equipment and installation for these sites has also been obtained. The workplan also includes the removal of equipment that does not show promise in meeting the accuracy requirements.

During a site visit to Bouldin Island on December 13, 2019 the vandalized test sites (Bouldin Island Siphon Nos. 39 and 40) were investigated. We found that the solar panels, dataloggers, and power supplies were stolen, but the flow sensors were not damaged and remain in place. Future site visits to all of the islands are currently on hold until diversions increase and/or activities related to the next phase of the Measurement Experiment begin.

Reclamation District No. 756 Bouldin Island

Issue Tracking Summary

2/7/2020

| 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 |
| 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. |

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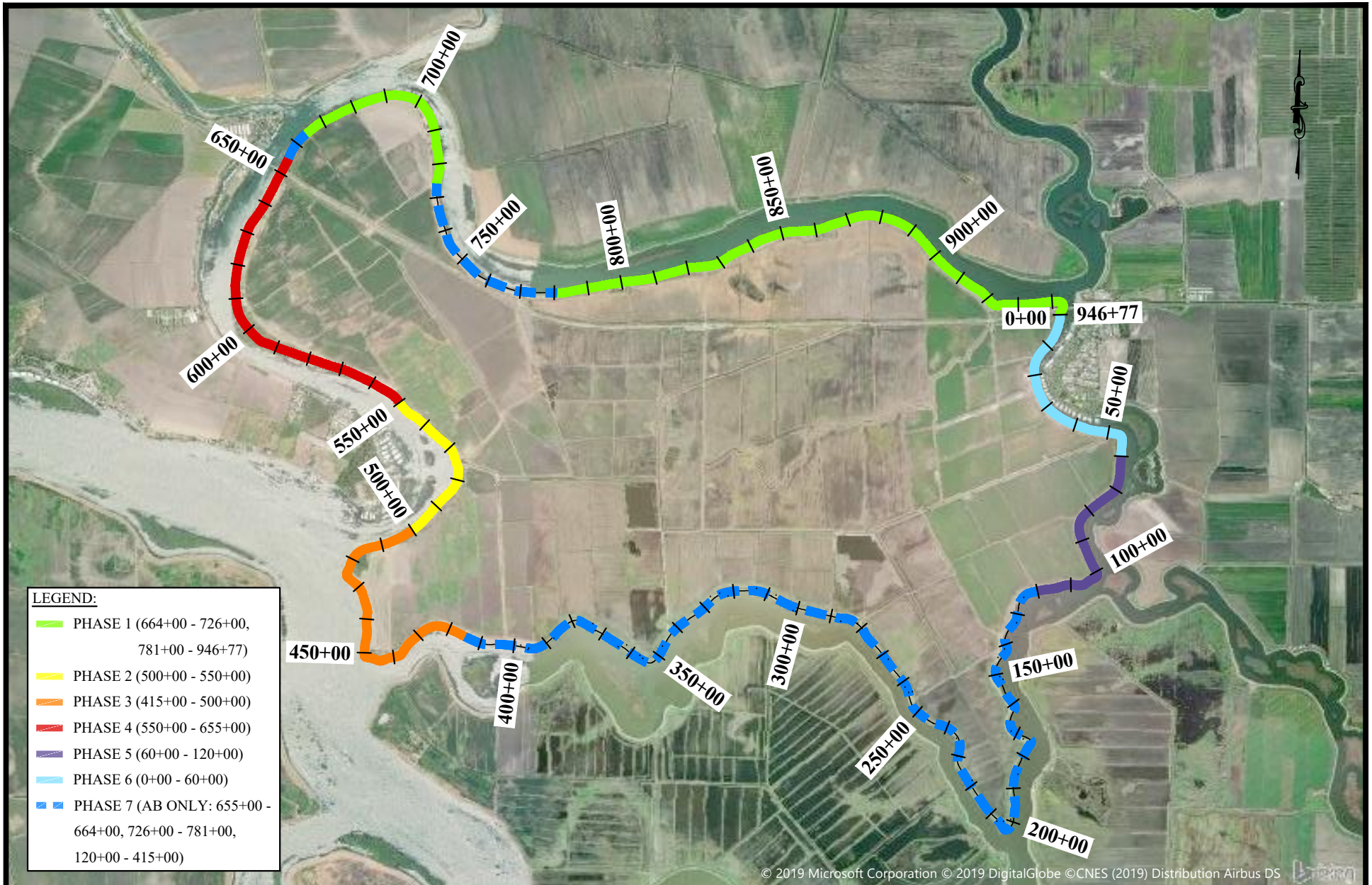
| IssueID | Priority | Report Date | Reporter | Location | Issue Type | Description | Action | Field Notes |
|---------|----------|-------------|------------------|--|----------------|--|-------------|--|
| 63 | Medium | 3/23/2018 | RussRyan | Station 72 | Crack | Longitudinal crack on land side slope 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. |
| 65 | Medium | 5/8/2018 | RussRyan | Station 710 | RodentActivity | Adjacent to Duck Club office on Levee slope water side. Appears to be possible Beaver Den discovery during low tide. | Repair | Min. Fill material;Need to investigate extent of hole and fill in with Levee backfill material/rock. |
| 65.1 | Medium | 6/19/2018 | AndrewReece | Station 712+00 | RodentActivity | Possible beaver den by district office, west of tree on ws slope | Repair | Two levee penetrations, one on top of other. WS slope sloughing. |
| 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. |
| 85 | Low | 4/1/2019 | MichaelNishimura | 79+00-80+00 | Sloughing | sloughing on water side for about 100 feet, cracking at hinge | Monitor | |
| 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. |

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|---------|----------|-------------|----------------|------------|---------------------------|---|-------------|--|
| 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 | |
| 93 | Medium | 9/26/2019 | Andy Reece | 693+00 | Sloughing, RodentActivity | sloughing and possible rodent den | Investigate | big rock and might be eroding, possible beaver as well |
| 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 | |



455 University Avenue, Suite 100
 Sacramento, California 95825
 Phone: (916) 456-4400 • Fax: (916) 456-0253

RECLAMATION DISTRICT NO. 756 BOULDIN ISLAND

PROJECT PHASING MAP

| | |
|-------------|------------|
| SCALE: | 1" = 4000' |
| JOB NUMBER: | 4125-18 |
| DRAWN BY: | JB |
| DATE: | 01/23/2020 |
| SHEET: | 6 OF 6 |