

FLOOD CONTROL ZONE 5 ADVISORY BOARD
NOVEMBER 26, 2018

UPDATE

Item 1. Easkoot Creek Maintenance Update

Annual creek vegetation and sediment removal was completed in September, with emphasis around Arenal Avenue bridge; vegetation clearing upstream of the bridge and sediment removal downstream of the bridge to the basin on National Park Service property.

In April a storm delivered a volume of sediment that exceeded the design capacity of the Eastkoot sediment trap. The sediment filled up the channel and water and gravels flowed out of the creek and across the Stinson Beach parking lot. The National Park Service north parking lot experienced extensive damage due to this washout. The following week, the District constructed a sandbag wall to divert the creek back into its channel, which held through the summer allowing us to address the issue under summer maintenance permits.

In September, the District hired a contractor, AMA Diversified, to remove sediment from Easkoot Creek behind the Parkside Café and up to Arenal Avenue. The contract with AMA was for \$25,908. The next lowest bid received was for \$78,800. Using excavators and a dump truck, AMA completed the work in four days without any incidents or change orders. The Park Service agreed to accept the spoils of the excavation in the North parking lot, where the erosion from the April storm occurred. The Park Service prepared the site by installing concrete blocks along the face of the eroded head-cut. Our contractor dumped the spoils into the pit, and NPS compacted and graded the hole as it was filled in. Approximately 500 cubic yards of material were relocated from the creek to the North lot.

As directed by the District, the contractor lowered the creek bed up to Arenal Avenue bridge but did not scoop sediment from the upstream side of the bridge. Access, logistics, and associated costs for digging upstream of the bridge prevented us from going farther upstream. The expectation with the current configuration is that early season storms will move sediment under the bridge into the excavated area and provide room under the Arenal Bridge. Until that happens, the upstream side of the bridge could become choked with sticks and should be kept clear. The contractor did remove a large metal safe from the creek bed and placed it adjacent to the bridge, where it awaits disposal.

The District hired Conservation Corps North Bay for two days of creek maintenance work in September. For one day CCNB prepared the sediment removal site by trimming vegetation and removing the sandbag wall that they had installed in April. On the second day CCNB cleared vegetation from Arenal Avenue up to Highway 1 and picked up trash to comply with permit requirements.

An additional day of vegetation work was completed by District staff in the lower reach of Easkoot Creek. The Calles escaped damage last winter and this reach was in relatively good shape from previous years.

Marin County Flood Control and Water Conservation District



Sept 12, 2018

Sediment removal adjacent to Parkside Café.

Excavators and a skid steer were used to load cut material into a dump truck.



Sept 12, 2018

NPS installing a cut-off wall in the North parking lot hole before it was backfilled with sediment excavated from the creek.

This cut off wall in intended to prevent further erosion of the parking lot should another flooding event occur.

Item 2. Park Service Use Permit Renewal and Long-Term Outlook

The Special Use Permit (SUP) that allows the District to maintain the sediment basin on Park Service property lasted 5 years and expired on September 30, 2018. The Park and District are currently negotiating a renewal of the permit with the expectation that the basic terms of the agreement will be unchanged from the previous permit.

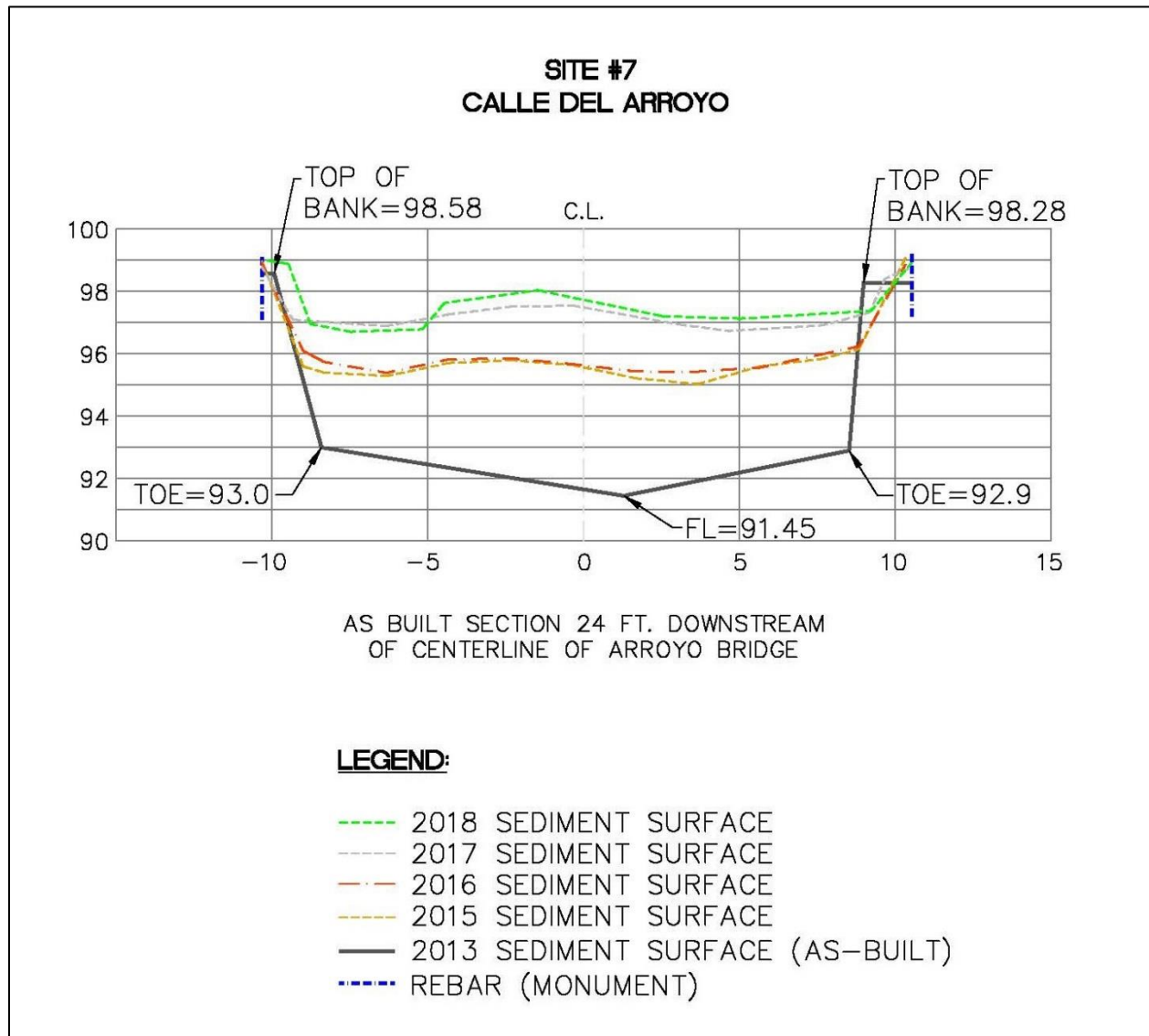
The Park Service is looking at some possible changes to the beach parking lot that may be able to accommodate larger volumes of sediment in the basin and reduce the amount of damage sustained during overflows. Given the results of the County's C-SMART sea level rise program and the Park's own vulnerability studies these are viewed as interim measures compared to the larger adaptations that will be needed to withstand increased flooding under future sea level rise scenarios.

Item 3. Long-Term Channel Monitoring in Lower Easkoot Creek

For the last four years, the Flood Control District has been monitoring the accumulation of sediment in the channel adjacent to bridge crossings in the Calles. This monitoring was initiated in conjunction with construction of the sediment trap within the beach park and concurrent with sediment removal at those bridge crossings. The premise of the monitoring was to test the efficacy of the sediment trap in providing a centralized, accessible, and seasonally dry location for sediment removal and its ability to reduce need for downstream maintenance.

The cross section below is from downstream of Calle Del Arroyo and is characteristic of the other locations. It shows the 2013 channel cross section after sediment excavation in solid black at the bottom. Within two years this area fills in to match the profile of the rest of the stream length. During the wet winter of 2016-2017 almost two feet of sediment were deposited along the bed. Last year a significant change didn't occur because it was so dry and during our one large storm all the sediment spilled over to the NPS parking lot and straight to the ocean.

One of the objectives of our permit with the San Francisco Bay Regional Water Quality Control Board is to establish quantitative metrics triggering when we do sediment removal, and continuation of this effort is well suited to inform those decisions. Unfortunately, many of the monitoring pins have been lost, buried or eroded away over the years. Therefore the District is simplifying the monitoring this year by taking measurements straight down from the actual bridges. In time the goal is to establish sediment removal triggers that are tied to hydraulic modeling and a specific recurrence interval, such as the 5 or 10-year storm event. We will plan to look at these monitoring results in more detail at our next advisory board meeting.



Item 4. Final Notes

The 2019 Advisory Board meeting date has not been set but is anticipated for sometime in February. Staff will reach out to coordinate a date early in the new year.