

**TECHNICAL INFORMATION PROVIDED IN
RESPONSE TO GULLI 4/19/19 PROTEST**

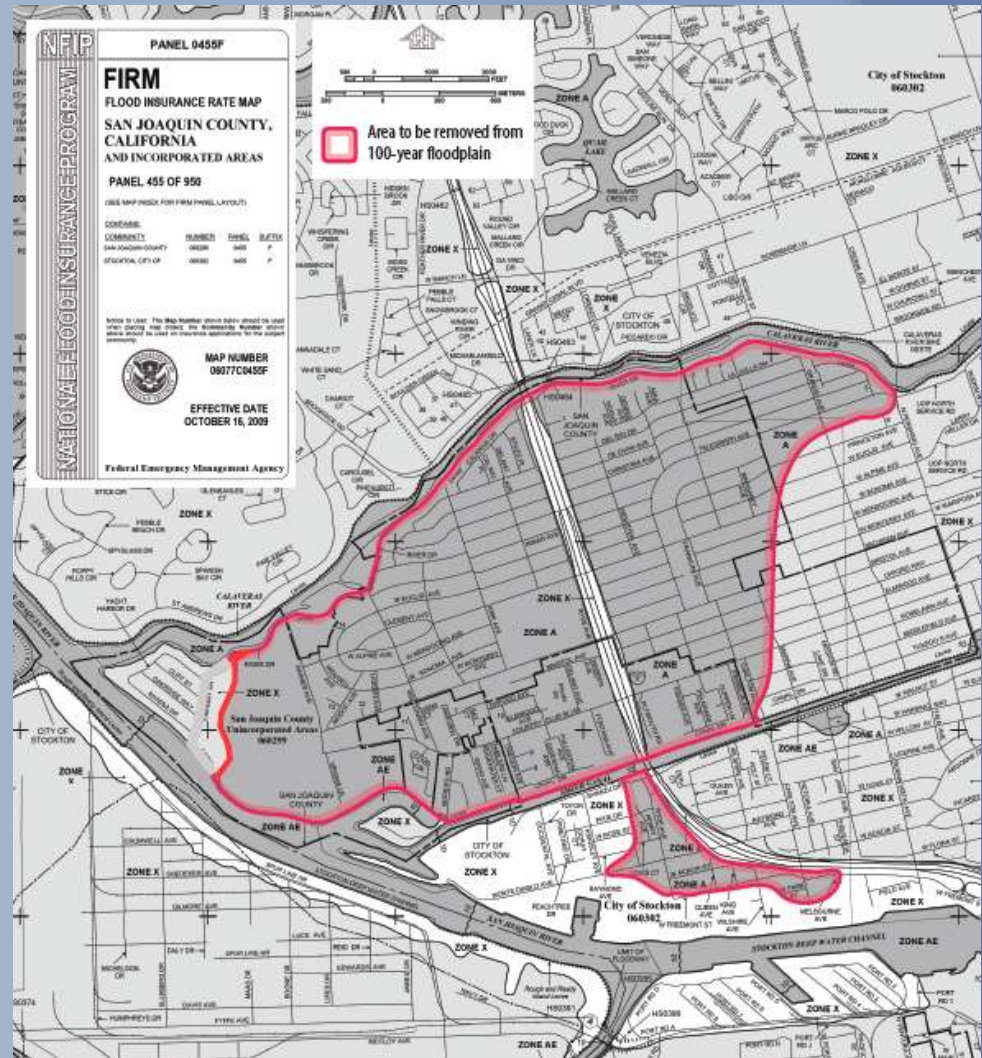
SMITH CANAL GATE PROJECT AGENDA NO. 11A

APRIL 26, 2019

Presented by:
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1. Need for Project

- Levees not compliant with FEMA 44 CFR 65.10 O&M criteria
- FEMA de-accredited Smith Canal levees in 2009. The effective FIRM reflects this.
- Protest asserts that the levees can be accredited as is, but FEMA has made its finding and RDs declined to certify.



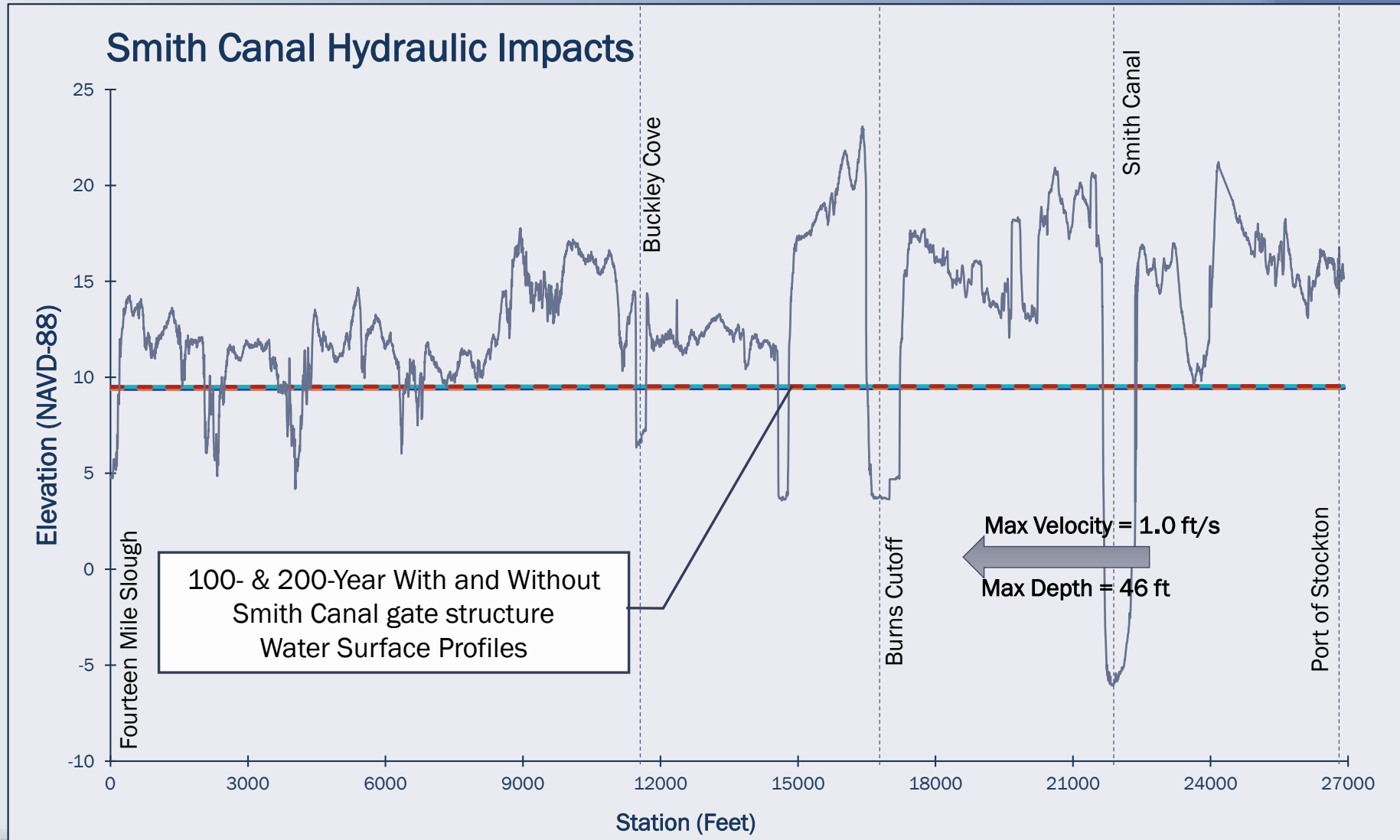
2. Regulatory Floodway Restrictions

- ◎ The Protest claims the project violates the regulatory floodway requirements.
- ◎ But the Project is not in a FEMA or CVFPB regulatory floodway.
- ◎ Therefore, the floodway restrictions do not apply, so numerous assertions in the Protest that hinge on this point are moot.

3. Hydraulic impact of Gate on other levees

- ◎ Gate will be in the Delta Pool, essentially a very slow moving 61,000 acre lake with a nearly level water surface. In a high stage event, the gate will be closed, thus “walling off” the 85 acre Smith Canal and Atherton Cove. This "walled off" area is 0.14% of the wetted area of the Delta.
- ◎ FEMA water surface profiles are level, reflecting nearly still water. (see Gulli RFJN #160)
- ◎ PBI HEC-RAS modeling shows 0' stage rise due to a closed gate versus the without project condition in 100- and 200-yr floods (see next slide)

3. Hydraulic impact of Gate on other levees (cont.)



3. Hydraulic impact of Gate on other levees (cont.)

The Protest's "rudimentary study" which estimated Delta stage rise of 1.7' due to closed Smith Canal and future 14 Mile Slough gates contains significant errors:

- ◎ The Protest's worksheet actually calculates 0.34' rise due to a closed Smith Canal Gate, and 0.82' rise due to the USACE-proposed 14 Mile Slough Gate, The total of these is 1.16', not 1.7'.
- ◎ The Protest's 0.34' rise attributed to the Smith Canal Gate assumes that an arbitrary 1,125 acre segment of the Delta in the vicinity of the Gate is somehow hydraulically isolated from the rest of the Delta. The Protest estimates the Delta stage rise by spreading the "walled off" volume of Smith Canal over only these 1,125 acres. But the 1,125 acres are not isolated. An accurate analogy is dumping a cup of water into the deep end of a swimming pool; the water spreads out over the whole pool, not just the deep end.
- ◎ The Protest's assertion that there is a hydraulic jump in the Ship Channel is incorrect. A hydraulic jump is something you see at the outlet of a dam spillway, where a shallow unstable high velocity jet "jumps" to a deeper, slower flow regime. This is not something you find in the tranquil Ship Channel.

4. Protest's GME Design Concept

- ⦿ Consists of an earth-filled, twin plastic sheet pile wall structure, built on the waterside slope along the Smith Canal levee perimeter.
- ⦿ But the crown of the structure would be capped with an “all weather road” at elevation 8, which would be ***under 1.4' of water*** in a 100-yr event.
- ⦿ Further, plastic sheet piles would be exposed to vessel impact and other hazards and would narrow Smith Canal channel.
- ⦿ This concept was considered in SJAFC's CEQA document, and not carried forward.
- ⦿ And we question why the Protest still proposes this solution if the existing levees can be accredited, as the Protest asserts?

5. Other Technical and Design Issues

SJAFCA's design team has many layers of review and oversight

1. FEMA review resulted in an approved CLOMR;
2. USACE uses the identical concept in their now-approved and Authorized Project.
3. Separate CEQA and NEPA processes were completed.
4. DWR approved the concept by awarding design and construction grants, and has been reviewing work products all along.
5. Three separate LMAs have been reviewing work products and have endorsed the project.
6. An Independent Panel of Experts has been reviewing work products. The IPE was approved by DWR and by USACE as a SAR panel.

PROJECT HYDRAULIC OPERATION

Top of floodwall/gate elevation:

9.5 ft 200-year Water Surface Elevation
+ 3.0 ft Freeboard Required
+ 1.1 ft Hydraulic Uncertainty
+ 1.4 ft Sea Level Rise through 2050 (median projection)
15.0 ft Top of Floodwall and Operable Gate Elevation

Mean WSE = 4.9 ft

Trigger closure when predicted stage ≥ 8.0 ft

Gate open on outgoing tide to release any accumulated storm water once water levels across the gate are equalized.

Gate Operation, January 1983 Delta Stage Event + 25yr Storm

