State Route 37 Policy Committee
March 2, 2017 Update

SR 37 Flooding Between 101 and Novato Creek Emergency Project

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Caltrans District 4 Bay Area
State Route 37 Corridor Segments

- Segment A – freeway/expressway between SR 101 and SR 121 - (4-lanes)
- Segment B – freeway/expressway between SR 121 and Mare Island (highest immediate risk of seal level rise) – (2-lanes and 4-lanes segments)
- Segment C – freeway between Mare Island and Interstate 80 - (4-lanes)
City of Novato and SR 37/101 Area with Novato Creek Blue Flow Arrow Shown 3 of 5
NOVATO CREEK WATERSHED – Novato Creek flows eastward from Stafford Lake through the City of Novato and into San Pablo Bay near the mouth of the Petaluma River.
City of Novato and SR 37/101 Area with Novato Creek Blue Flow Arrow Shown
Marin County and SR 37/101
Area with Novato Creek
Blue Flow Arrow Shown (5 of 5)
Traffic Update

SR 37 from U.S. 101 East past the Petaluma Bridge is a 4-lane Median Divided Freeway:

• 41,000 Vehicles Average Daily Traffic on SR 37 near 101

• 1600 or more Trucks Average Daily (4%)

• 3900 Vehicles Peak Hour Average Daily
King Tide January 2017

Flooding in February with rainfall likely to occur
Storms and Tides of January 2017

Heavy Rainfall -
Beginning January 3 until January 22 with 13 days rain 0.5 inches to 2.2 inches.

Large Storms -
January 8 combined with nearly 8-feet King Tides showed impacts Novato watershed causing backwater, river levee overtopping, and basin overfilling – roadway flooding.

King Tides -
combined during this time with continuous rain over a long duration and saturation.

Field storage -
is lost with long duration storms so freeway adjacent storage basins become full.

“Super” King Tides -
were 1.5 feet higher than predicted (Super King Tides) resulting in roadway flooding.

SR 37 Closures - Jan 8, Jan 18 (4 days), Jan 22 (7 days), Feb 10 – total 27 days
State Route 37 Flooding Near 101–February 2017 Novato Creek Private Levee Breach
SR 37 Looking West January 2017
SR 37 Looking East January 2017
SR 37 Looking West from Westbound Lanes of Novato Creek Bridge January 2017
2017

• Photo Looking West at SR 37

• Significant long duration rainfall

• King tides up to 8 ft elevation resulting in overtopping levees

• **Caltrans Maintenance** in teamwork with Marin Public Works and adjacent land owners pump clear the freeway south to north basin to open
Novato - Highway 37 Novato Creek Crossing

- At a tide of 6.2-ft MHHW (5.8-ft NAVD88) Novato Creek over-tops both east and west Novato Creek banks in the Caltrans right of way adjacent to the Highway 37 bridge crossing.
- Westward overtopping flow floods the shoulder and west-bound lanes on Highway 37.
- A portable pump is needed by Cal Trans on the west side of the creek to pump water off of the highway and shoulder into the Marin County storm water detention basin.
- Eastward overtopping flow drains into Deer Island Basin and onto the Highway 37 shoulder.
- A Marin County pump moves water from Deer Island Basin and the Highway 37 shoulder back into Novato Creek.
Interim Measures – January Presentation

- Marin County - completed “Novato Creek Hydraulic Study – Analysis of Alternatives” in March 2016 identifying short term, intermediate and long term strategies.

- Interim SR 37 strategies to keep open this Novato Creek area freeway segment may include:
  - Review paving options with asphalt the low roadway profile and adding a south side shoulder safety barrier from the Novato Creek Bridge westward about 1200 feet to help address south side water elevations and assist Maintenance pumping activity if needed.
  - Possibly update two cross road culvert pipe sizes and consider manual tide gates on culverts to help Maintenance to seal the culverts, versus back flowing and flooding WB lanes, assisting the pumping activity as needed.
  - Consider culvert updates from the roadway median extending to WB shoulder to keep roadway dry longer and improve pumping water that does back flow into the drainage system.
  - Scope and estimates are to be defined and project delivery options evaluated.

- Long term strategies:
  - Team with TAM, STA, NVTA, and SCTA executive directors and local agencies to evaluate possible project initiation and project development efforts for this critical SR 37 corridor.
  - Options for the Novato Creek portion of SR 37 may include an elevated structure or elevated roadway embankments from 101 to past the Petaluma River that may need to raise the roadway to elevation 13 (NAVD 88 datum) for current sea level rise projections, similar to Segment B options.
SR 37 Eastbound and West Bound Raised 2 feet
Emergency Contract Approved and February 14
Started New Drainage and Sheet Piles
Complete February 2017

Drainage Work Ongoing
Sheet Piles Ongoing
SR 37 Eastbound and West Bound Raised 2 feet
New Drainage and Median Safety Barrier
Complete February 2017
SR 37 Eastbound Looking East, Right Shoulder
Type 60 Safety Barrier and Sheet Pile Wall
Complete February 2017
SR 37 Eastbound Looking East, Right Shoulder Bridge Berm Support and Sheet Pile Wall Complete February 2017 Open to Traffic Feb 24
SR 37 Follow Up Work Through Summer 2017

Temporary Lane and Road Closures
Additional Drainage Work
Bridge Sealing
Shoulder and Median Barrier
Electrical Lighting
Shoulder and Median Grading
Minor Paving Work
Signing and Paint Striping
Thank you.

Questions?