

O'Donnell Lane over Calabasas Creek Bridge Update May 2024

Sonoma County Public Infrastructure was notified of a traffic accident on the O'Donnell Bridge (Bridge No. 20C0324) in late December 2023.

Our Senior Bridge Engineer performed a field investigation on January 4, 2024 and provided the assessment below:

It is our understanding that a pickup truck collided with the rail of the O'Donnell bridge on Dec 19, 2023. The collision occurred on the south-western rail of the bridge. This section of rail has been struck before, and damage was identified as far back as 2014. The traffic collision has made the condition of the rail substantially worse. Attached to this update are:

- Photo 1 – A photo showing how far out of true this collision knocked the rail. The rail is supposed to be straight.
- Photo 2 – A photo showing the section of bricks on the headwall that were displaced. A red line to highlights the demarcation.
- Photo 3 & 4 – Showing the condition of the rail as of Jan 4, 2024.
- Photos 5 & 6 – General View of the bridge

It appears that the original bridge may have only had a brick curb, and the concrete rail was cast on-top of the curb at a later date. The rail is not properly anchored to the bridge. This recent collision caused damage to propagate down into the headwall. The arch is filled with earth, which supports the roadway. The earth is retained by the headwall. The headwall was previously noted for signs of distress from overloading, which has now been exacerbated by this collision. As it stands, this collision has increased the vulnerability of the headwall to a greater structural failure from vehicular overloading. This bridge has experienced a recent increase of truck traffic servicing fire-burn redevelopment nearby. If the rail is struck again, there is a high likelihood that the rail will fail completely, along with a portion of the headwall, which would result in long-term closure of the bridge and irreversible damage to historic features. It could potentially allow the vehicle to fall over the edge of the roadway into the creek. The curb-to-curb width is 10 ft, so another collision is likely.

This bridge is a resource that is highly valued by the community and heavily used by pedestrians. It is listed as a local landmark and eligible for inclusion on the National Historic Registrar. Accordingly, any repair undertaken will need to be completed with great care. This is not likely to be an option without a significant source of historical restoration funding.

The repair will require the services of a qualified expert in historic masonry restoration for the brick portions. Repairing the concrete will ideally require a specialist to re-cast the damaged section to match the appearance of the existing rail. Sacrificial bollards on either end of the bridge are recommended to protect the railing from being struck in the future.

Another option is to close the bridge to vehicles and convert it to a pedestrian crossing. This could reduce the rate of decay of the bridge. Some considerations for doing so:

- A bike/pedestrian rail would need to be installed. Ideally in front of the existing rail, not on top of it, so the clear width would be reduced to 6 to 8 feet.
 - Given the context, this rail should be an aesthetic rail with coordination from the local community and the landmarks commission.
- Caltrans does not typically provide the inspection services for pedestrian bridges, and bridge may no longer be inspected by Caltrans inspectors. The bridge may also no longer be eligible for Federal funding under the Highway Bridge Program for repairs, rehabilitation, or replacement.

Caltrans inspects bridges every two years and provides a Bridge Inspection Report recommending any needed maintenance. The last inspection is dated 2022, prior to the traffic accident. Our department has not yet received the 2024 report.

While Caltrans has not yet recommended closure for this bridge, they have noted the progressive deterioration of the bridge mortar and bricks. They have recommended a truck load limit as low as 15 tons, which is less than half of the 40 tons that is typical for California bridges. Locals have reported to County staff that the bridge has been routinely trafficked by fully loaded trucks, which are likely greater than the assigned load limit for the bridge. Based on this analysis, our department is recommending the second option, which includes a long-term closure of the bridge to vehicles and investigating a future repair to the bridge rails to provide bicycle and pedestrian use.

The detour on Henno Road is nearby and readily available.

While our department relies on our partners at Caltrans for bi-annual inspections of our bridges, in this case we recommend an approach that may differ from their analysis to ensure public safety and continued preservation of this County Landmark.

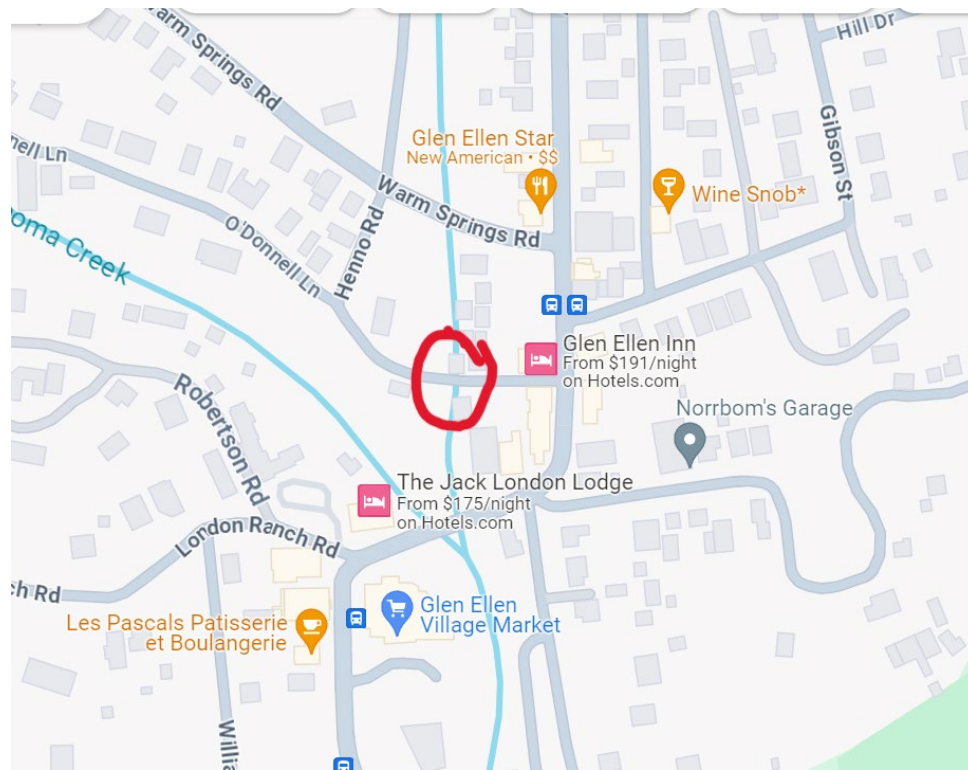




Photo 1 – Rail Displacement



Photo 2 – Headwall damage



Photo 3 – Rail Damage



Photo 4 - Further Rail Damage



Photo 5 – current view



Photo 6 – General view