
North Coast Regional Water Quality Control Board

Inspection Memo

To: Gil Falcone, Senior Environmental Scientist, Southern Non-point Source and 401 Certification Unit

From: Scott A. Gergus, Engineering Geologist, Northern Non-point Source and 401 Certification Unit

Date: March 1, 2023

Subject: August 5, 2022, inspection of Sexton Hill Vineyard alleging rock fill in unnamed watercourse.

File: John and Teresa Balletto, Sexton Hill Vineyard, 707 Sexton Road, Sebastopol, Sonoma County, APN 077-030-012
ECM PIN: CW-887265, WDID No. 1B23023CNSO

Background

North Coast Regional Water Quality Control Board (Regional Water Board) staff Kason Grady received an anonymous complaint alleging the unpermitted placement of rock slope protection (RSP) in an un-named stream on a Balletto vineyard at 707 Sexton Road, Sebastopol. The complaint is located within Sexton Hill Vineyards (APN 077-030-012), approximately 2.8 miles southwest of Sebastopol, Sonoma County. Two photographs were included in the complaint. On June 22, 2022, the complaint was entered into the CalEPA complaint Data Base and assigned complaint number COMP-54217. The property is owned by John and Teresa Balletto. On August 1, 2022, I left a telephone message with Mr. Balletto regarding the complaint. On August 2, 2022, Mr. Balletto's representative, Nick Frey returned my call. During that phone call I requested a site visit and we agreed to meet on-site on August 5, 2022, at 1300 hours for a complaint inspection.

Inspection

Sexton Hill Vineyard is located at 707 Sexton Road. According to LandVision, the property is 28 acres. According to Google Earth, approximately 15 acres are planted to vineyards in two blocks. The blocks are separated by a forested area and unnamed stream. The unnamed stream is tributary Sexton Creek, tributary to Jonive Creek and eventually flows to the Russian River and is located within the Russian River Hydrologic

Unit, Guerneville Hydrologic Sub-area 114.11. The property is accessed by Finn Road, a private, one-lane gravel road that intersects Sexton Road at a northern location (Image 1). Finn Road is approximately 12 feet wide with a 10-foot-wide running surface. The complaint site is located in the forested area where Finn Road crosses an un-named stream.

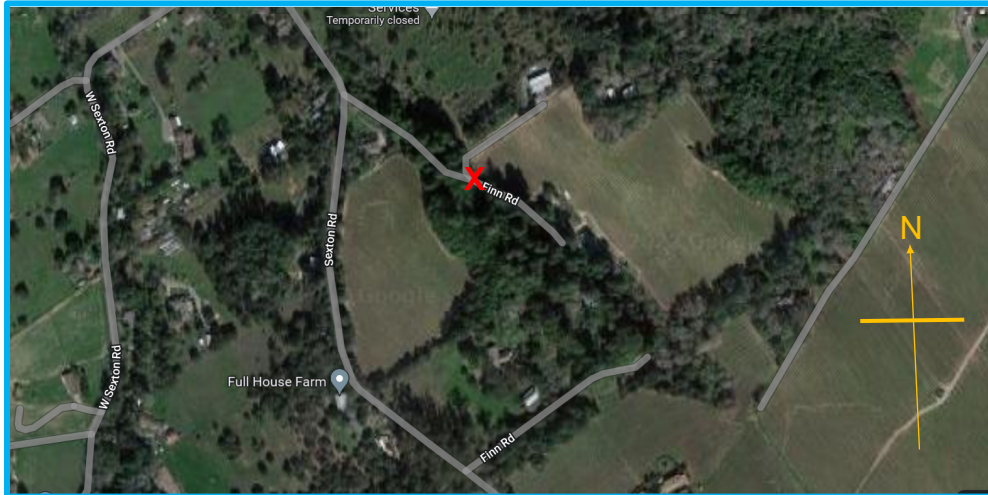
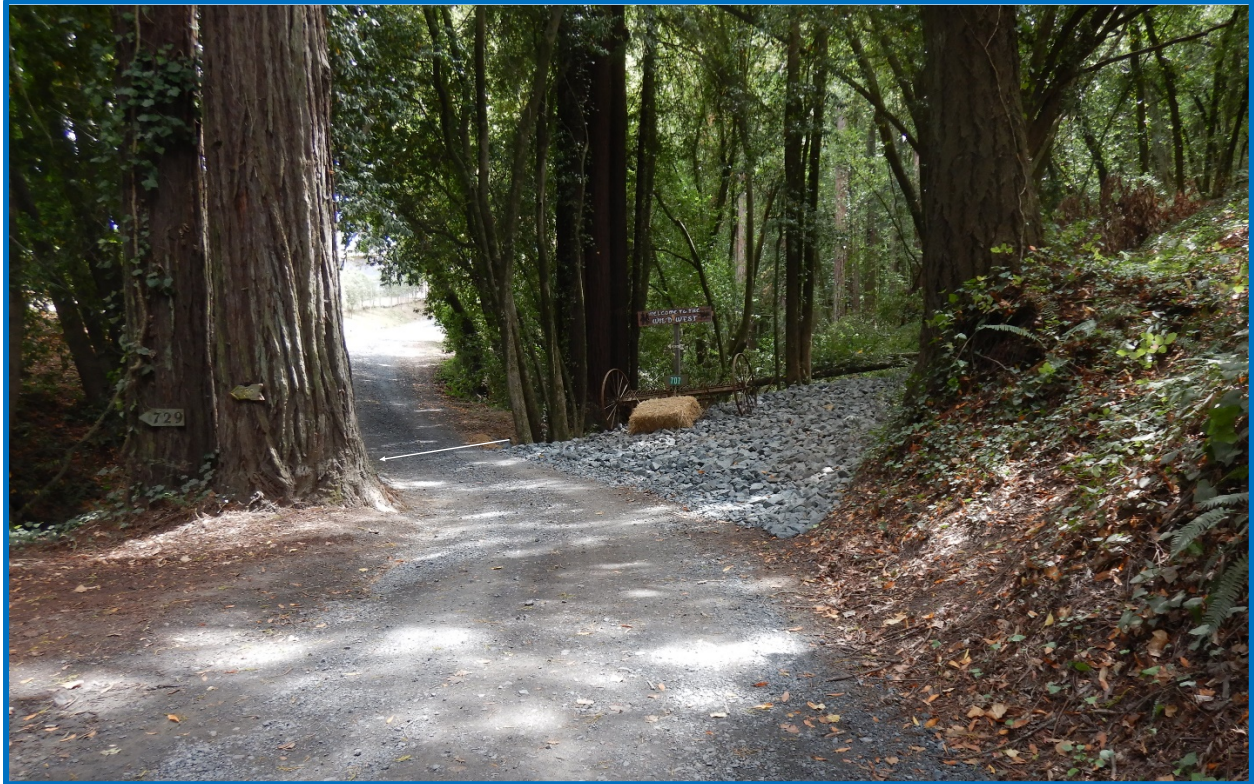


Image 1: Complaint site located at the red "X" showing Sexton and Finn Roads, vineyards, and forested area.

At 1300 hrs. on August 5, 2022, I met Mr. Frey on-site. We commenced the inspection near the northern intersection of Finn and Sexton Roads and walked approximately 300 feet along Finn Road to the complaint site. The purpose of the inspection was to respond to COMP-54217 alleging unpermitted placement of rock slope protection (RSP) on the stream banks and in the stream bed at a culverted crossing on an unnamed stream.

Finn Road extended along an unnamed stream through an old growth redwood forest with trees up to 4 feet in diameter breast height. As I approached the complaint site, I observed what appeared to be a decommissioned dirt road intersecting Finn Road. A portion of this road was adjacent to the left bank of the same unnamed stream associated with the complaint. Approximately 2 cubic yards of clean, 8-inch angular rock was stored where the abandoned road intersected Finn Road (Photograph 1). Rock placed along the edge of the stream's steep-sided bank is at risk of discharging into the watercourse and needs to be relocated to a stable, upslope location.



Photograph 1: Comp-51427 site where an unnamed stream drains under Finn Road. Arrow indicates crossing location and stream flow direction. Note pile of angled rock on segment of decommissioned road that intersects Finn Road.

The complaint site is where an unnamed stream drains under Finn Road through a 24-inch diameter corrugated metal pipe (CMP) that is approximately 15 feet long. Typically, a permit from the Regional Water Board (and other state and federal entities) is required before a stream crossing can be installed. Regional Water Board (RWB) records indicate a permit was not obtained for this crossing.

The streambanks upstream of the crossing are approximately 6.5 feet high with 60-degree slope angles (Photograph 2). The streambed is approximately 3.5 feet wide. Rock slope protection (RSP) was placed on both banks and on the road's fill face. The barren, steep banks and road fill face are at risk of erosion, and it is likely RSP was placed on them to prevent/arrest erosion. I also observed some RSP in the stream and this was likely rock that dislodged from the steep banks. The RSP associated with the crossing appears to be the same as that placed on the decommissioned road.

Rock slope protection is often used at stream crossings, including culverted crossings. Typically, RWB staff engage early in the permit application process and ensuing discussions address avoidance and minimization methods for the entire Project. These would include ensuring the amount of RSP used at the site it is kept to a minimum. Because no permit was obtained from the RWB, these discussions never occurred.

Obtaining a permit from the RWB ensures the Project is the least environmentally damaging alternative.

Based on my observations, it appears the RSP is undersized for its intended purpose (erosion control) and also for on-site conditions (steep slopes). It is easily mobilized and at risk of on-going discharge into the stream. A licensed engineer, hydrologist or other qualified professional should be consulted to address the RSP. However, RSP is just one component of a culverted crossing and I recommend a complete assessment of the entire crossing be conducted to ensure it meets current RWB standards of practice (see below for more information).



Photograph 2: Photograph of complaint site's streambanks, road fill face and culvert inlet. Some rock used to stabilize steep banks that has failed into the stream.

The culvert inlet is partially crushed, reducing its diameter. The stream leading to the inlet appears aggraded and I observed rock and earthen material partially blocking the inlet (Photograph 3). Regional Water Board current standards of practice are that culvert diameters be sized to accommodate 100-year flood flow, with debris and sediment loads. Additionally, culvert lengths need to be sufficient to support road width, including both shoulders, and culvert backfill material. They need to be installed at channel grade, in line with the stream, and not at a bend. Properly sized and installed culverts are at reduced risk of plugging and potential crossing failure, and fine sediment discharge. Because a permit was not obtained for this installation, it is unknown if the culvert is appropriately sized, or not. A reduction in culvert inlet diameter increases the likelihood the culvert will plug. If this occurred during periods of high rainfall, stream flow could overtop the crossing and erode the road's surface and discharge fine

sediment into the stream. A blocked culvert could also lead to crossing failure where the road's surface and culvert backfill material, including fine sediment, could discharge into the stream.



Photograph 3: Rock and debris obstructing partially crushed culvert inlet.

The culvert outlet is above stream grade and shotgunned. It appears the culvert was improperly installed and is not at stream grade. A plunge pool has formed below the outlet because of scour and erosion during periods of high flow. Tree roots and trunks are visible because of ongoing erosion (Photograph 4). Rock slope protection has been placed on the road's fill face surrounding the outlet to prevent erosion. The fill face is near-vertical and some RSP has fallen into the stream (Photograph 5). Left unarmored, erosion on steep fill faces can extend onto the road's surface. Steep fill faces are commonly found at watercourse crossings where the culvert is too short to properly accommodate the road width. In these scenarios, there is insufficient room for fill faces to slope gently from the road's outboard edge down to the culvert inlet and/or outlet.



Photograph 4: Culvert outlet not at channel grade with steep road fill face armored with RSP. High flow is eroding the stream bed, forming a plunge pool, and exposing roots and tree trunks.



Photograph 5: Near-vertical road fill face lined with RSP. Note RSP in stream and pile of RSP in foreground at risk of discharging into stream.

I also observed rocks, RSP and other earthen material inside the culvert. A rust line approximately 10-12 inches wide extends the length of the culvert bottom. I could not determine if rust holes had formed along the culvert bottom, but rust lines are a precursor to rust holes. I also observed a kink/bend toward the middle of the culvert and the upstream portion of the culvert drains toward the inlet and not the outlet as intended (Photograph 6).



Photograph 6: Rust line approximately 10-12 inches wide extending from culvert inlet to outlet. Arrow identifies bend/kink in culvert creating reverse flow.

Overall, the culvert was not installed to accepted standards and it appears it is no longer functioning as designed. In its current location and state, the inlet is at risk of plugging which will likely result in crossing failure. Were the crossing to fail, earthen material, including fine sediment, contained in the crossing fill and road surface would discharge into the watercourse and potentially downstream into fish-bearing creeks and rivers. Fine sediment is deleterious to salmonids and other aquatic organisms.

Conclusions

COMP-54217 alleged unpermitted rock fill placed in an unnamed watercourse at 707 Sexton Road west of Sebastopol, APN 077-030-012. During the inspection I observed RSP on the stream's banks, the road fill faces, and in the streambed. Because a permit was not obtained, it is unknown if the RSP is appropriately sized to adequately prevent erosion and remain in place. A qualified professional should assess this and if determined undersized, it should be removed. A permit must be obtained for this. If the RSP is removed, erosion control BMPs would need to be installed. If these directly or indirectly impact waters of the state, a permit must be obtained.

While the complaint alleges unpermitted placement of rock in waters of the state, the rock in question is one component of an unpermitted culverted stream crossing. It appears the culvert is undersized for the stream size (culvert diameter) and road width (culvert length). The inlet is partially crushed, and earthen material is aggrading above

the inlet. The culvert has a kink in it, creating reverse flow. The outlet is shotgunned and erosion during periods of high flow created a plunge pool. This erosion is likely ongoing. A rust line approximately 10-12 inches wide extends the length of the culvert, but it is unknown if rust holes have formed. While addressing the complaint (RSP) is a required minimum action, I strongly recommend the entire crossing be evaluated by a licensed professional for its effectiveness. If found to no longer be functioning as designed, I recommend it be removed and replaced. This would also require a permit from the RWB. The RSP appears to be a by-product of a poorly designed and installed culvert. Removing the RSP would not remedy the larger problem.

During the inspection, I informed Mr. Frey of the RWB's permitting requirements and how they related to the complaint site and watercourse crossing. Mr. Frey said Balletto Vineyards would obtain a permit through our agency and do what was necessary to correct the problem. I told Mr. Frey I would let him know the next steps after I spoke to my supervisor. Mr. Frey said he would contact Cort Munselle with Munselle Civil Engineering to evaluate the RSP and culvert and prepare the necessary paperwork and submit a permit application (certification).