
San Francisco Bay Regional Water Quality Control Board

INSPECTION REPORT

To: Bremer Family Winery Vineyard Case File
Place ID 829621

December 13, 2016

From: Michael Napolitano, Engineering Geologist
Agnes Farres, Environmental Scientist
Fred Hetzel, Environmental Scientist

Approved by:

Subject: Inspection of the Bremer Family Winery Vineyard, Napa County

On September 19, 2016, San Francisco Bay Regional Water Quality Control Board (Water Board) staff performed an inspection of the Bremer Family Winery Vineyard, located in St. Helena, Napa County.

Michael Napolitano, Agnes Farres, and Fred Hetzel conducted the site inspection along with Napa County staff (Brian Bordona and Patrick Ryan), a California Department of Fish and Game warden (Mark White), and one of the landowners (John Bremer) and his project engineers (Drew Aspegren and Diane Jackson with Napa Valley Vineyard Engineering). The inspection purpose was to assess site conditions after Water Board staff received complaints related to construction of the vineyard.

Background

The site is underlain by Ash-Flow Tuffs of the Sonoma Volcanics Formation, characterized by very shallow and rocky soils in most locations throughout the property except for in topographic hollows, channels, and alluvial fans. In 2013, Napa County approved an erosion control plan that authorized the placement of fill on the site to create a “new soil” that allows sufficient depth for rooting of the vineyard. The vineyard fills are wedge-shaped, typically flat or gently sloping, with fill thickness decreasing to zero at the upslope boundary, and at maximum thickness and buttressed at the down-slope edge by unreinforced boulder-cobble rock walls approximately 6-10 feet high.

Staff Observations and Concerns

1. **An unnamed intermittent or ephemeral stream channel, that is hydrologically connected to the Napa River, was ditched and culverted during the current phase of vineyard development.** Vineyard blocks were developed directly adjacent to the channelized stream, with eight- to ten-foot-high rock walls now forming the banks of the stream. Prior to development, as evidenced by review of time-sequential aerial photographs available in Google Earth, there was a continuous physical connection between this unnamed stream and a named blue-line stream (Canon Creek), and wet-season flow was evident. Prior to development the stream alternated between single-thread and multiple-threaded reaches, cascade bedforms were common, and vegetation on the rocky floodplain for the channel was dominated by chapparral species.
2. **Post-vineyard development increase in storm runoff peak does not appear to be fully attenuated.** Key assumptions in the original hydrologic model for the vineyard development project appear unreasonable or imprudent (e.g., a persistent improvement in soil infiltration capacity as a result of deep ripping; taking advantage of a recent fire over part of the property to assume reduced infiltration capacity under the pre-development condition; not accounting for decreases in time of concentration as a result of ditching and placement of subsurface drainage pipes, etc.). As a result, it is plausible that the constructed detention basin is significantly undersized.
3. **No filter fabric was placed between the rock walls and fill, and the rock walls may be vulnerable to differential settlement and soil piping,** which has the potential to result in significant sediment discharge to Canon Creek. In our discussion with the project engineer, we learned that the fill is not keyed or benched except at the contact with the rock wall. There has been no engineering analysis performed to confirm that the rock walls will remain stable under expected loads. The rock walls should be subject to a design review by a qualified geotechnical engineer.

Attachments

Attachment A – Site Inspection Photographs

Attachment B – Map of Channelized Stream

**Attachment A – Site Inspection Photographs
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Photo 1. Lower portion of unnamed intermittent stream that was channelized (looking upstream).



Photo 2. Lower portion of unnamed intermittent stream that was channelized (looking upstream).

**Attachment A – Site Inspection Photographs
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Photo 3. Upper portion of unnamed intermittent stream that was channelized (looking upstream).



Photo 4. Confluence of channelized unnamed intermittent stream and Canon Creek (looking upstream).

**Attachment A – Site Inspection Photographs
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Photo 5. Example photograph of rock walls.




Photo 6. Photograph of detention basin.

**Attachment B – Map of Channelized Stream
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Stream Path Change 4/2015

This map overlays the May 2012 pre-construction stream path with the current channelized stream.

Legend

 Creek course as of May 2012

