Timberland Resource Consultants

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July 16, 2019

David Manthorne
California Department of Fish and Wildlife
619 Second Street
Eureka, CA 95501

NOTIFICATION NO. 1600-2015-0100-R1 – PROJECT INSPECTION REPORT

This Project Inspection Report is being submitted at the request of David Manthorne to facilitate the processing of an Amendment proposing a change in Applicant/landowner. Chris Carroll inspected the site on July 16, 2019 and was accompanied by the new landowner, Marko Teovski - Ten Redwoods LLC.

Pond Inspection: See attached Engineering-Geologic Review. All of the CEG's recommendations have been implemented by the former landowner/Applicant as follows: (1) Freeboard was increased to 2-feet; (2) Pond spillway was reconstructed with 1/8-1/16-ton boulders over geotextile; (3) Pond lined with Bentonite, and (4) Erosion control was applied post reconstruction. See attached photographs.

Crossing #1: The rocked ford was installed by the former landowner/Applicant per the specifications stated in the notification and agreement. See attached photographs. TRC recommends maintenance in the form of rocking the approaches to provide a stable operating surface. TRC will be preparing the Site Management Plan and this shall be a recommendation.

Maximum Diversion Rate and Bypass Flow: It does not appear that the former landowner/Applicant installed a water valve between the POD and first receiving tank to allow adjustment of the flow rate to ensure compliance with Measure 2.2 and Measure 2.3. This is probably not a big deal given the enormous size of the Class II watercourse at the POD during the non-forbearance period (see photographs from notification). Please note that this particular Class II watercourse is completely dry by summer, and diversion, which in this instance is via "pumping" is almost impossible during the forbearance period.

Forbearance Period: There is presently 93,750 gallons of hard plastic storage; 20,000 gallons of which was recently added by the new owner. In addition, there is an estimated 300,000 gallons of impounded water in the Class III on-stream pond. The new owner is permitted for 4,050 ft^2 of mixed-light and 7,650 ft^2 of outdoor. There appears to be enough stored water to serve the cultivation site.

Measurement of Diverted Flow: TRC explained to the new owner the requirement for installing a water meter per Measure 2.5 to measure diverted streamflow. This was never done by the previous owner to TRC's knowledge. The new landowner shall install a water meter and TRC shall provide proof of such device to CDFW soon thereafter.

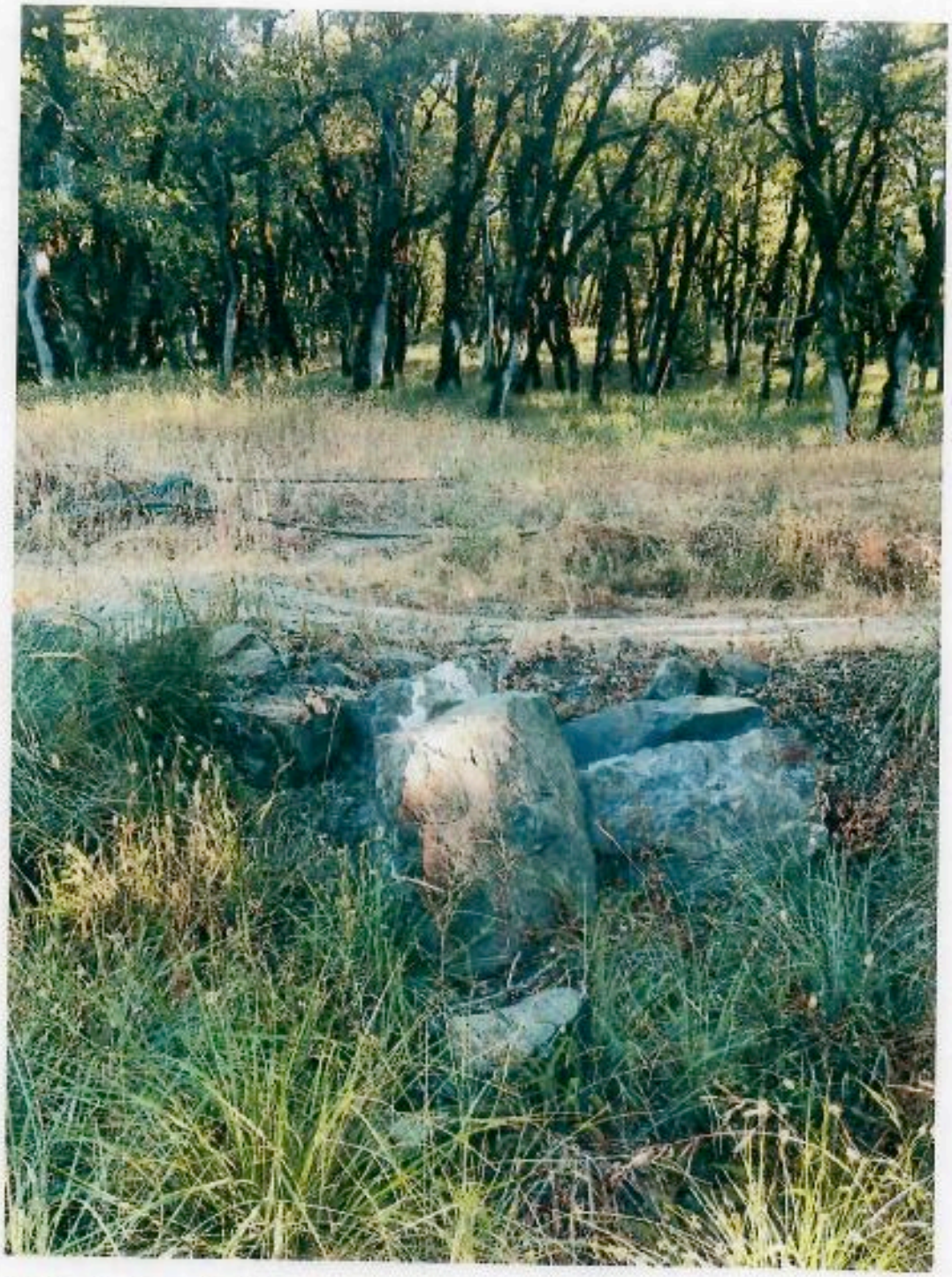
Intake Structure: TRC did not observe the intake structure during the inspection. There was no poly-pipe or pump nearby the POD. The new owner was not even aware of the POD location. TRC explained the requirement for intake screening on the intake structure, which in this particular situation will be a poly-pipe because of the requirement for pumping.

Bull Frogs: TRC's is unaware of past bullfrog monitoring efforts conducted by the former owner. No bullfrogs were observed in or alongside the pond during TRC's inspection. The new owner has never seen bullfrogs in the pond, and its unlikely they occur because the pond completely dries up each year. The new owner is aware of the Bullfrog Monitoring and Management Plan for the pond.

Sincerely,

Chris Carroll, RPF #2628
Timberland Resource Consultants

Pictures

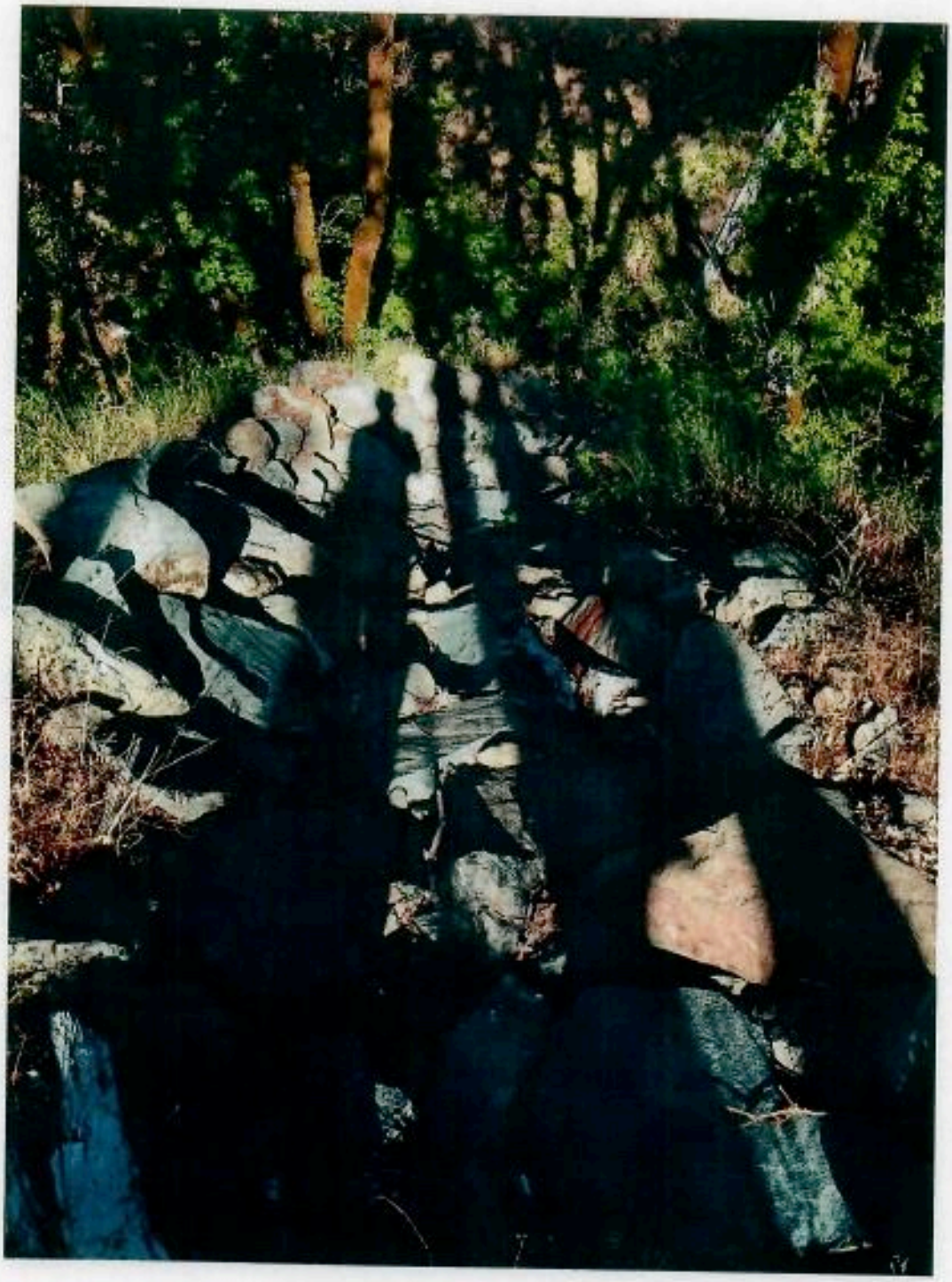


Outlet of Rock Ford – Crossing #1. Photo date: 7-16-2019

Pictures

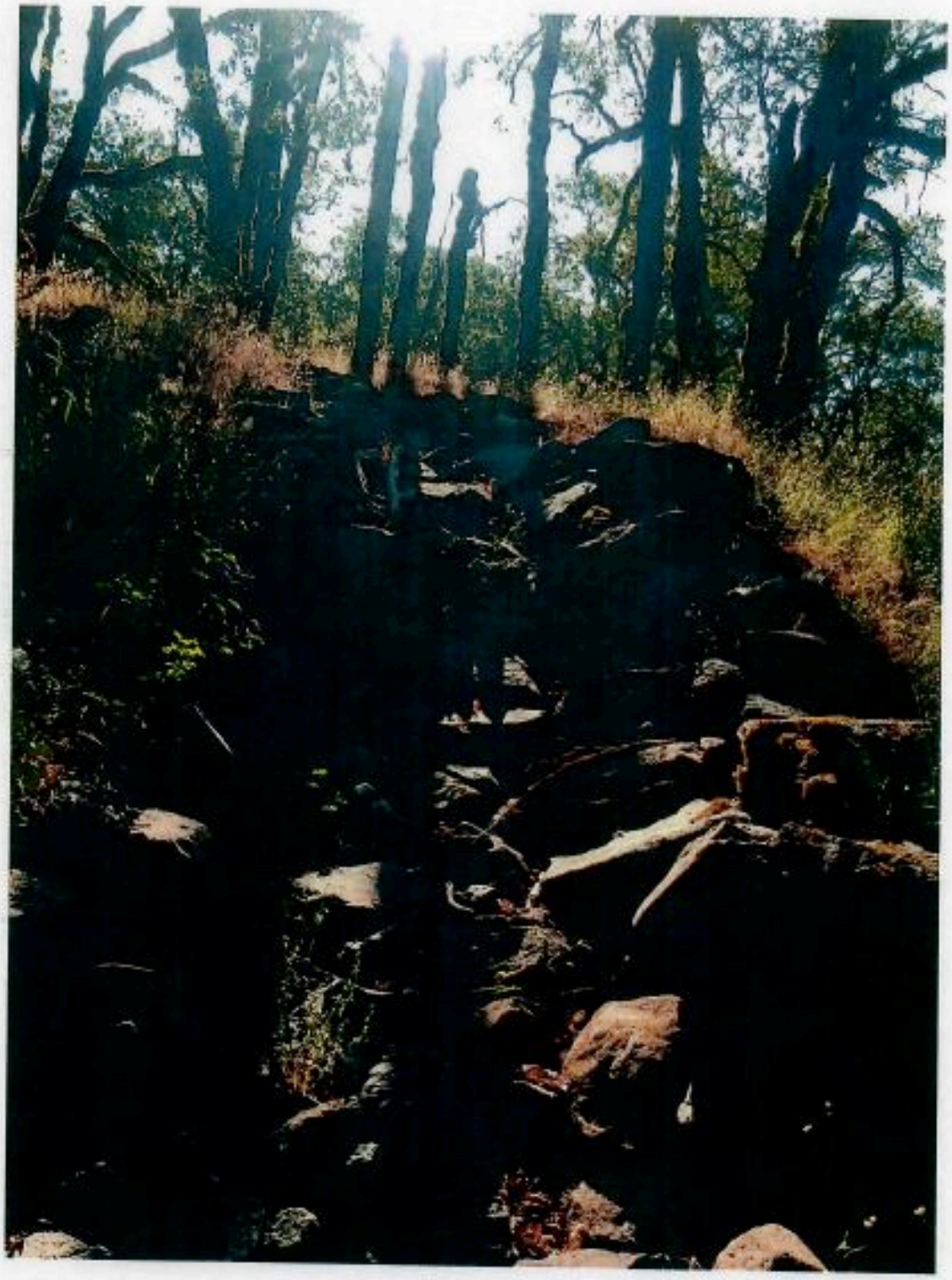
Outlet of Rock Ford – Crossing #1. Note pulverized rock and dust, which shall be addressed by adding more surface rock to the approaches. Photo date: 7-16-2019

Pictures



Rock-lined V-ditch-Pond Spillway. Photo date: 7-16-2019

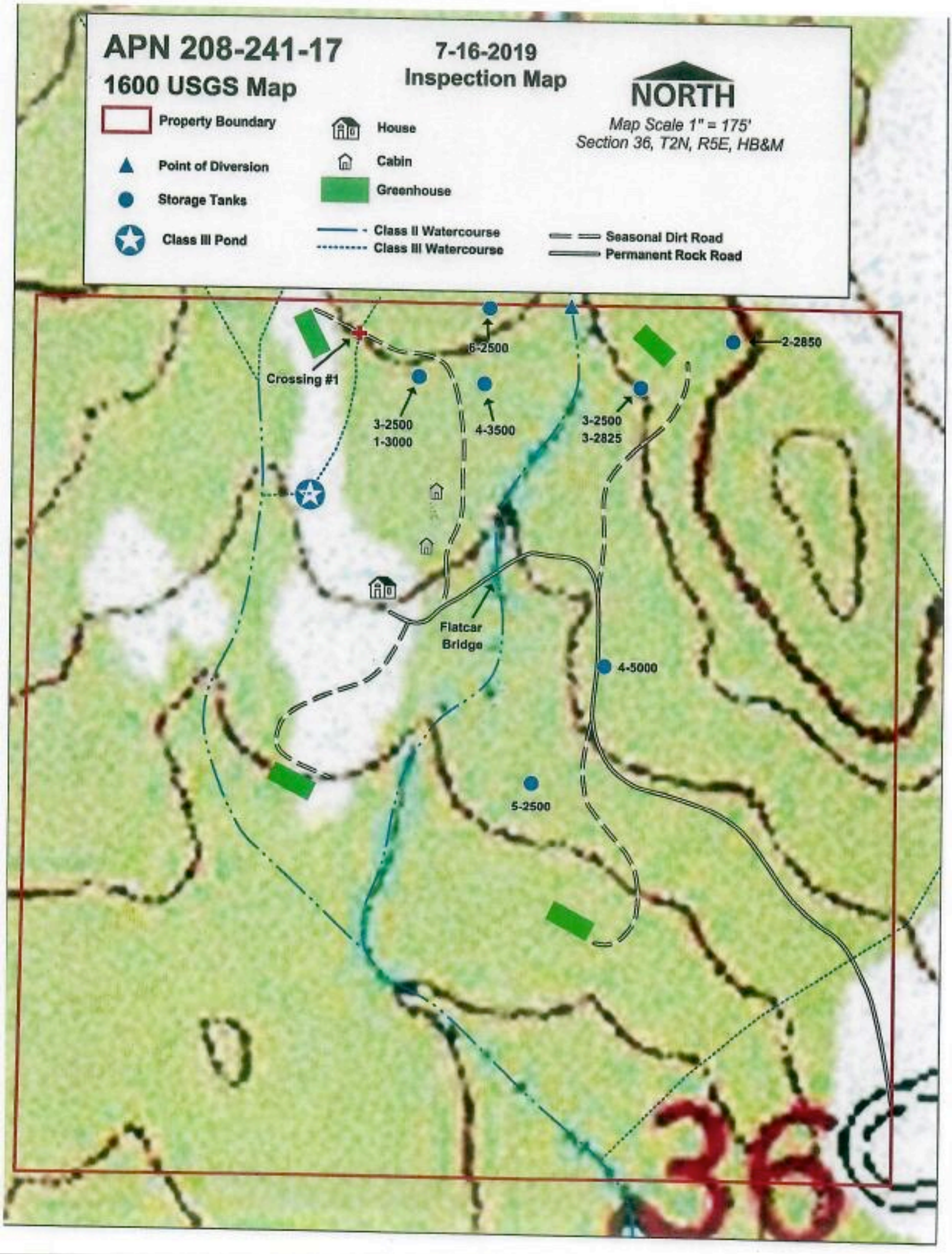
Pictures



Rock-lined V-ditch-Pond Spillway. Photo date: 7-16-2019

Pictures

Four 5,000-gallon plastic tanks recently added to the property, which were not part of the original notification.


APN 208-241-17
1600 USGS Map
7-16-2019
Inspection Map
NORTH
Map Scale 1" = 175'
Section 36, T2N, R5E, HB&M
Property Boundary
Point of Diversion
Storage Tanks
Class III Pond
House
Cabin
Greenhouse
Class II Watercourse
Class III Watercourse
Seasonal Dirt Road
Permanent Rock Road
Crossing #1
6-2500
2-2850
3-2500
1-3000
4-3500
3-2500
3-2825
Flatcar
Bridge
4-5000
5-2500
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LINDBERG GEOLOGIC CONSULTING
David N. Lindberg, CEG
Post Office Box 306
Cutten California 95534
(707) 442-6000

May 30, 2016

Project Number: 0164.00

Mr. Eric Wegmet
261 Manzanita Avenue
Eureka, California, 95503

Subject: Engineering-Geologic Review; Existing Agricultural Pond, AP #208-241-017
Timberline Ranch Estates, Unit P-134, County Line Rd., Mad River, California

Dear Mr. Wegmet:

Thank you for your interest in Lindberg Geologic Consulting. In accordance with our agreement, we have conducted an engineering-geologic reconnaissance of the existing pond and immediate vicinity, and reviewed information supplied by your Forester regarding the subject parcel as noted above. Our work was in support of our clients consultants' efforts to secure a "1600 permit" for the pond, and other recent improvements at the subject property. A Certified Engineering Geologist from our office visited your pond on April 29, 2016, to assess the suitability of the existing pond, and to provide our professional opinion of the stability of the berm retaining the water therein. Latitude and longitude of this existing pond are approximately 40.5116° north, and 123.5627° west, respectively.

Absent from the May 28, 2014, Google Earth image of the site, this approximately 40 by 50-foot pond is visible on the satellite image from August 11, 2015. According to our client and his equipment operator, the pond was constructed with a Caterpillar D-5 bulldozer, by excavating into the hillslope and constructing a berm with the excavated materials on the downhill side. Berm fill materials were reported to have been track-packed during construction for compaction. Runoff, supplemented by water from a source some distance up-slope that we did not observe, fills the pond during the wet season. A rock-spillway had been built to convey overflow to the steep bank of an existing Class-2 ephemeral watercourse to the west.

In our opinion, based on our observations and discussions with the client and his operator, and our professional experience, the pond berm construction appears to have been at least marginally adequate. We were not able to determine by observation if the native ground where the pond berm was built was benched, scarified or compacted, or if the berm itself was keyed into a benched subgrade. It was obvious that the pond berm was track-packed over its finished surface, mulched with straw, and seeded with grass. Native grasses and other vegetation appeared greener in the area, but no emergent flow was observable around the toe of the berm. If any seepage should ever be observed in the toe area of the pond berm, we recommend that the pond be drained immediately, our office contacted, and an appropriate liner placed before refilling.

We concur with Addendum 10-A of the Wegmet 1600 that the pond spillway requires reconstruction. As-built, the pond berm and spillway appear to have functioned adequately during the winter of 2015/2016, their first wet season. Overflow from the pond was controlled and discharged to the ephemeral stream to the west without any observable erosion. Based on the concerns expressed by CDFW and our observations, however, it is recommended that the freeboard of this pond be increased to 24-inches at minimum.

To ensure suitable long-term functioning, the spillway should be reconstructed. We recommend the spillway width be at least five feet, that the top of the rock lining be two feet below the crest of the pond berm, and that it be lined with a suitable geotextile fabric (e.g., Amoco 2002, or an approved equivalent) for separation and stability. Place armor of 1/8 to 1/16 ton boulders over the geotextile, and fill the intergranular spaces with large cobbles and fine to medium gravel. At the point where the slope steepens at the outlet of the spillway to flow to the creek, transition from the spillway channel to a rock-lined v-ditch at least seven feet wide. Line the v-ditch with an armor of 1/8 to 1/16 ton boulders over the geotextile, and fill the intergranular spaces with large cobbles and medium gravel. Place 1/8 ton boulders for armor at the lower end of the rock-lined v-ditch where it discharges to the creek, using caution in order to avoid deflecting the creek against the opposite back and causing erosion there.

In our opinion, from an engineering geologic perspective, the existing pond berm is stable in its present static configuration. If any seepage flow occurs at the toe of the pond berm, we recommend that the pond be drained immediately and our office be contacted. Do not use the pond again until it is lined with bentonite or an approved plastic liner. We recommend that the spillway be reconstructed as specified above, and a rock-lined v-ditch be constructed to convey runoff to the stream while protecting against the potential for erosion. When completed, the pond berm and spillway should provide at least 24-inches of freeboard between the pond berm crest and the water surface.

Any soil areas exposed by the anticipated work, and any remaining from the earlier pond construction, should be treated to prevent potential erosion by seeding those areas with grasses and mulching with straw, at minimum. Erosion control measures are included in the 1600 application and should be applied as soon as the construction is completed. When applied during the dry season, those areas treated for erosion control should be watered regularly to sprout the seed and establish the erosion-control vegetation prior to the next wet season. We recommend that the owner prepare an as-built plan of the pond, and a plan showing the design and construction details of the proposed berm, spillway and drainage channel (v-ditch) improvements. Proposed designs should be reviewed by this office to confirm, in writing, conformance to our recommendations.

Please contact me at the number above if you have any concerns or questions.

Thank you.

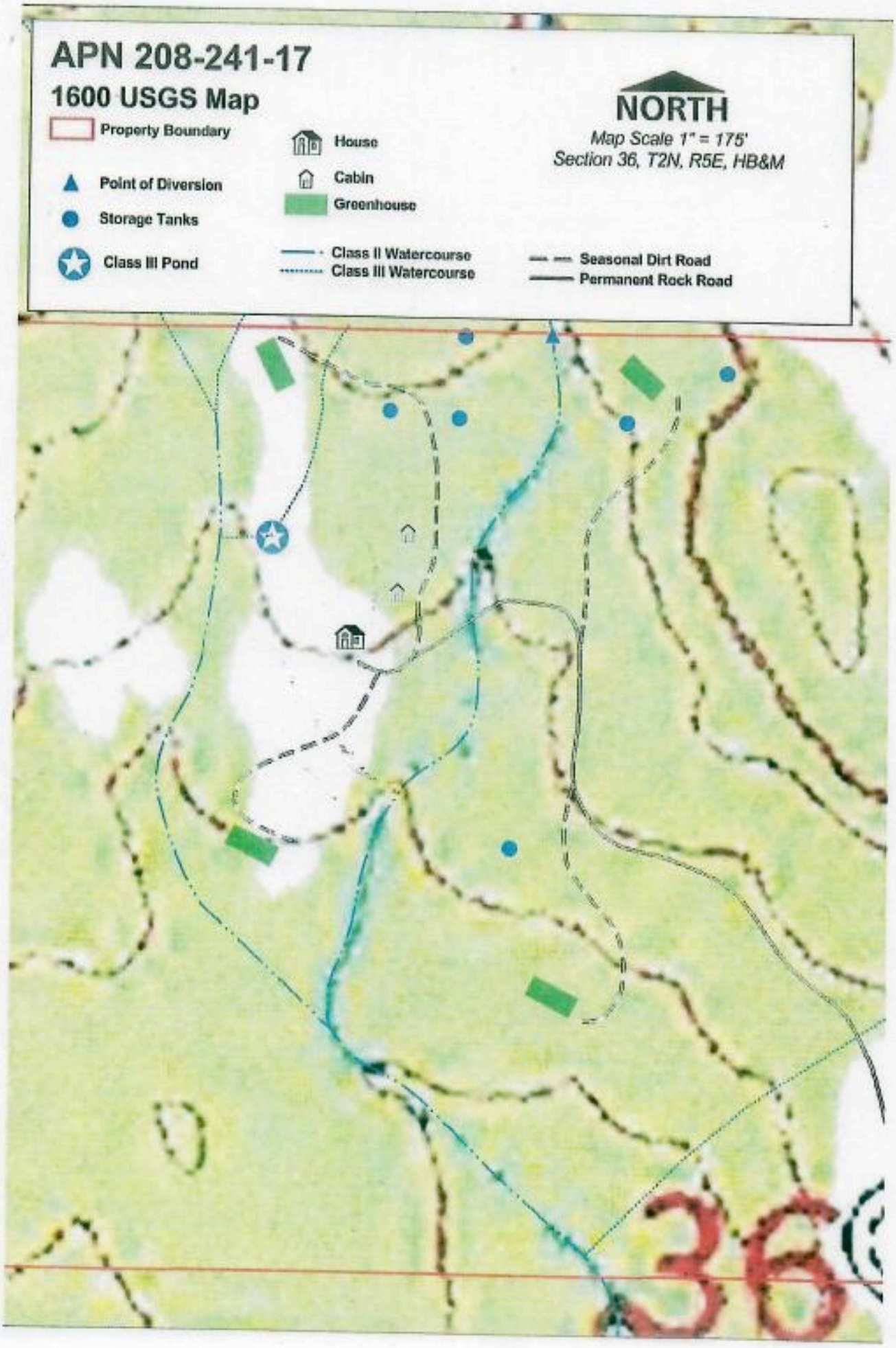
Sincerely,

David N. Lindberg

CERTIFIED ENGINEERING GEOLOGIST
DAVID N. LINDBERG
No. 1895
DP. 02/28/18
STATE OF CALIFORNIA

David N. Lindberg, CEG 1895
Lindberg Geologic Consulting

DNL:


APN 208-241-17
1600 USGS Map
Property Boundary
Point of Diversion
Storage Tanks
Class III Pond
House
Cabin
Greenhouse
Class II Watercourse
Class III Watercourse
Seasonal Dirt Road
Permanent Rock Road
NORTH
Map Scale 1" = 175'
Section 36, T2N, R5E, HB&M
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