

**WETLAND DESIGN FORM**  
**Shingle Springs, CA**

**Date:** 05-17-2014

**Landowner:** Alisa

**Location:** Shingle Springs, CA

**Designers:** Thomas R. Biebighauser, Kerry Kriger, Ph.D.

**GPS coordinates:** 39°35'17"N 12°58'37"W

**Percent slope:** 4-percent

**Hydric soil or plants present:** Yes, area is a mowed pasture field and front yard

**Groundwater elevation:** None

**Topsoil depth:** 6-inches

**Soil texture:** Clay with thin layers of gravel, 4-feet deep to bedrock. Some boulders appear vertical in orientation. Runoff soaks into the ground downhill from the site.

**Evidence of historic drainage:** Yes, there is a road, culvert, and ditches immediately uphill

**Construction fill present?** Not found

**Size of proposed wetland:** approximately 36 x 46-foot naturally appearing oval shape

**How marked on the ground:** Pink colored ribbons were used to mark the perimeter of the proposed wetland

**Does a stream channel enter the area?** No. But the area is located in a wide and shallow drainage.

**Are head-cuts located uphill or downhill from the marked area?** None

*Prepared by:*

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&

Dr. Kerry Kriger

SAVE THE FROGS! - Founder, Executive Director, Ecologist

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SAVE THE FROGS! is the world's leading amphibian conservation organization. We work in California, across the USA, and around the world to prevent the extinction of amphibians, and to create a better planet for humans and wildlife.



**Description of project and construction notes:**

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This is an excellent location for restoring a naturally appearing and functioning ephemeral wetland (vernal pond) and wet-meadow wetland that were affected by a road and past farming activities. The site is in a farm field that is being mowed. The wetland would be built near two oak trees in a grassy meadow. The wetland would be designed not to harm the oak trees. It would help clean water from homes located uphill in the watershed, and would provide habitat for a diversity of plants and animals, including possibly the California red-legged frog. The construction of the wetland would not impact neighboring land, the fence, or road. A groundwater dam approximately 50-feet long is needed to prevent water from leaving the wetland via subsurface gravel layers. A low elevation, above-ground dam averaging 6-inches high with 5-percent slopes would be built over the groundwater dam. It may also be necessary to compact 24-inches of clay in the bottom of the wetland due to the nature of the bedrock found on site.

A 100 or 200-Series excavator with a bucket at least 42-inches wide should be used to build the wetland. The project should be done when the soil is dry. The wetland would be supplied primarily with surface water runoff, and with groundwater. The wetland would be built deepest in the middle (2-feet) and have gradual slopes. The gradual slopes would be expected to develop into a wet-meadow perimeter. The excavator would be used to remove desirable plants for later replanting on the soil that is removed, and on slopes. Topsoil would be saved and spread in the finished wetland. The clay soil that is removed to build the wetland would be spread to form level ground along the lower edge of the wetland. A wide spillway that carries overflow water on a gradual slope would be constructed to prevent erosion and head-cuts from forming. The excess soil that is spread would be roughened and loosened, saturating with overflow from the wetland to form areas of wet-meadow wetland.

It is recommended that the techniques described in Wetland Restoration and Construction-A Technical Guide be followed. The described activities would be done under the farm maintenance exemption. The landowner is asked to obtain all permits that are necessary to complete the project. The landowner is asked to complete a check for buried utilities prior to construction

Tom Biebighauser is available to direct the construction of the wetlands. To view some of the wetlands he has built at school please visit [www.wetlandsandstreamrestoration.org](http://www.wetlandsandstreamrestoration.org) and <https://picasaweb.google.com/105985116543820569589/SchoolWetlands#>

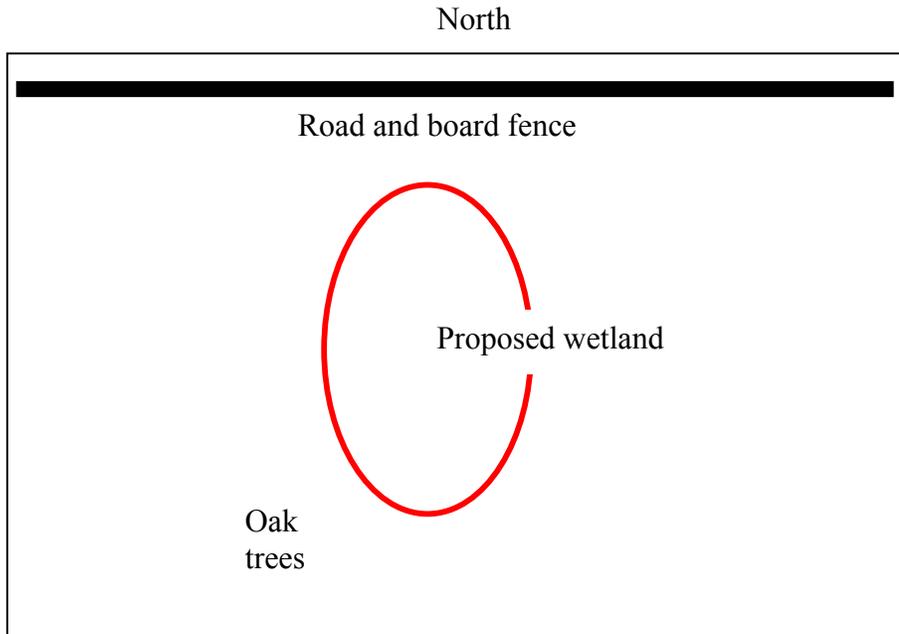
SAVE THE FROGS! Founder Dr. Kerry Kriger (<http://www.savethefrogs.com/kerry-kriger>) and another SAVE THE FROGS! biologist will be on hand to educate volunteers about amphibians and wetlands, and to communicate our project results to the greater public so that all participants, host organizations and funders get proper recognition, and so that this project inspires people around the world to create frog habitat and to appreciate nature and wildlife.

[www.savethefrogs.com/ponds](http://www.savethefrogs.com/ponds)

<http://www.savethefrogs.com/wetlands>

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*Sketch showing proposed wetland and special features:*



*Dr. Kerry Kriger stands near the proposed wetland location:*



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**Budget:**

1. Excavator (100 or 200-Series) & skilled operator: 10-hours @ \$140.00/hour = \$1,400
2. Wheat for erosion control, 1-50lb bag @ \$20.00/bag = \$20
3. Wheat straw for mulch: 12-bales @\$10.00/bale = \$120
4. Tom Biebighauser project implementation coordination = \$750
5. Two SAVE THE FROGS! biologists: coordinating, implementing, educating = \$700 total
6. Followup documentation, promotion and communication to the public, reporting to funders:  
1-day @ \$240

**Funding subtotal = \$3,230**

**Indirect costs @ 15% = \$485**

**Funding Total = \$3,715**

Please contact Tom Biebighauser if you have any questions.