

Restoring the Northern Pacific Water Tank at Elkhorn MT

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Northern Pacific Water Tank

On the southern flank of Elkhorn Mountain, 20 miles southeast of Helena, a railway water tank is clinging to life 127 years after its initial construction. The water tank was built by the Northern Pacific Railroad in 1890 to serve the silver mining boomtown of Elkhorn. Replenishing the steam locomotives with water was critical after they battled the 4% grade up to Elkhorn. Along with the water tank, a depot and other facilities served the railroad from 1890 to 1914. After that, the town of Elkhorn used the water tank for an undetermined number of years. Today the tank resides on private land just north of town and it can be viewed from the road which travels north beyond Elkhorn.



The tank is significant in several respects. Bill Taylor, noted Montana railway historian, is unaware of any original NPR water tanks like this that still survive. Typically, water tanks were dismantled in the 1950s and 1960s after steam engines were replaced with diesel locomotives. The Elkhorn water tank is not only the oldest water tank in the region, but it is *the only* known remaining NPR Standard Plan 48,000 gallon water tank of that era known to still exist. Note in the picture the very wide horizontal bands, the large planks on the lower tank, and the conical roof with its decorative finial. The tank was built to last and its longevity is a testament to its heavy duty construction.

How to Donate

To fully restore this precious artifact of history, we need your help. Consider donating \$25, \$100, \$1000 or any amount to the restoration project this summer. Your contribution is fully tax deductible. Donations should be mailed by April 28th, 2017.

Simply mail a check to the address below, made out the *Northern Pacific Railway Historical Association (or just NPRHA)*. The [NPRHA](#) is a 501.c.3 tax-exempt entity. And PLEASE mark in the Memo field "Elkhorn Tank".

NPRHA
PO Box 2937
Kirkland, WA 98083-2937

THANK YOU!

Summer 2017 Restoration

During the summer of 2017, a full restoration of the tank will be completed. The project is conceived and managed by the Friends of the Elkhorn Water Tank, with engineering consulting by Baudette Engineering of Missoula. While a previous grant by the Montana History Foundation and matching investment by the NPR Historical Association resulted in significant stabilization, this summer's project will implement the "big" push needed to truly fix and protect the structure. Saving the water tank at Elkhorn preserves a last-of-its-kind structure that truly is a survivor in the wilderness. The tank affords an excellent opportunity to educate children, tourists, architectural historians, and railroad buffs about the effort and enterprise of those early mining and railroad pioneers. The project engineer estimated the project costs to be \$22,000, which will come from several sources. The private land owner has again granted permission for this restoration work to take place on his land.

Our goal for Phase 2 is crystal clear – straight, snug walls and a strong, water-tight roof by August 2017 to preserve the Elkhorn Water Tank for another 127 years.

About the Friends of the Elkhorn Water Tank

Our organization is a group of volunteers collaborating for the singular goal of saving the Elkhorn tank. The Friends of the Elkhorn Water Tank formed in 2012, with Bill Taylor and Dean O'Neill crafting the original proposal to stabilize the tank. That "Phase 1" was successfully completed in 2013 with contributions from the MHF and the Northern Pacific Railway Historical Association (NPRHA) Grant program. A summary report of Phase 1 was submitted August 20, 2013.

Elkhorn resident Bruce Bell stimulated discussions for "Phase 2" during 2016, conducting an important new round of research and planning for "the Friends." The efforts of the group are supported by the MHF and NPRHA Grant project, as well as invaluable donated time by Baudette Engineering of Missoula, individual contributions from NPRHA members, and certainly very strong support from the Elkhorn and Jefferson County community.

NOTE – you can e-mail the group at elkhorntank@outlook.com

Restoration Details

The problems and current structural status of the Elkhorn tank is best summarized by this 2012 summary from Baudette Engineering:

With the failure of the roof, rotational stability for the structure was lost. As noted above, the tank walls currently lean significantly. Deterioration was noted in the tank plank floor boards and tank walls. The steel bands are currently intact. The timber columns and beams which support the main tank are in good condition with no indication of movement or settlement. Thus, the potential for stabilizing and restoring the tank in a state of arrested decay is high if action is taken soon to stabilize the structure to prevent total collapse.

In Phase 1, the tank was braced with three large beams to prevent imminent collapse. In Phase 2, we will go "all-in" to repair the tank.

Given the extreme instability of the roof and sides, the engineer feels that the ONLY safe way to restore this structure is to disassemble the roof and top half (bottom half is fine), and THEN reassemble the sides and roof once a strong and stable tank floor is installed.

The contractor (to be hired) will remove the roof and the sides using large forklifts. Then a new, very strong and stable floor will be constructed at the bottom of the tank, on top of the timber columns and beams. From there the original redwood wall planks (stays) will be re-erected and the metal bands repositioned. Any stays that need replacing will be redwood, like the original. Then a new roof will be installed, with very strong pre-fabricated trusses placed to support the original contour of the roof. Finally, fire resistant wood shakes will be installed, resulting in a roof that the engineer feels should be stronger and more resistant than the original. The overall look of the tank will be maintained with full historical fidelity, but the inside supports and floor will be modern. 127 more years, no problem!

The work will commence once the ground around the tank becomes dry and stable enough for large forklifts to begin the first steps. Disassembly is especially dependent on weather, and probably will not commence until June 2017.

Reassembly will begin in July, with final work completed in August.

Final work will involve ground restoration, clean-up, etc. for a nice, tidy site. We will remove timbers and blocks left over from Phase 1.



End of document. Thanks for reading this far!