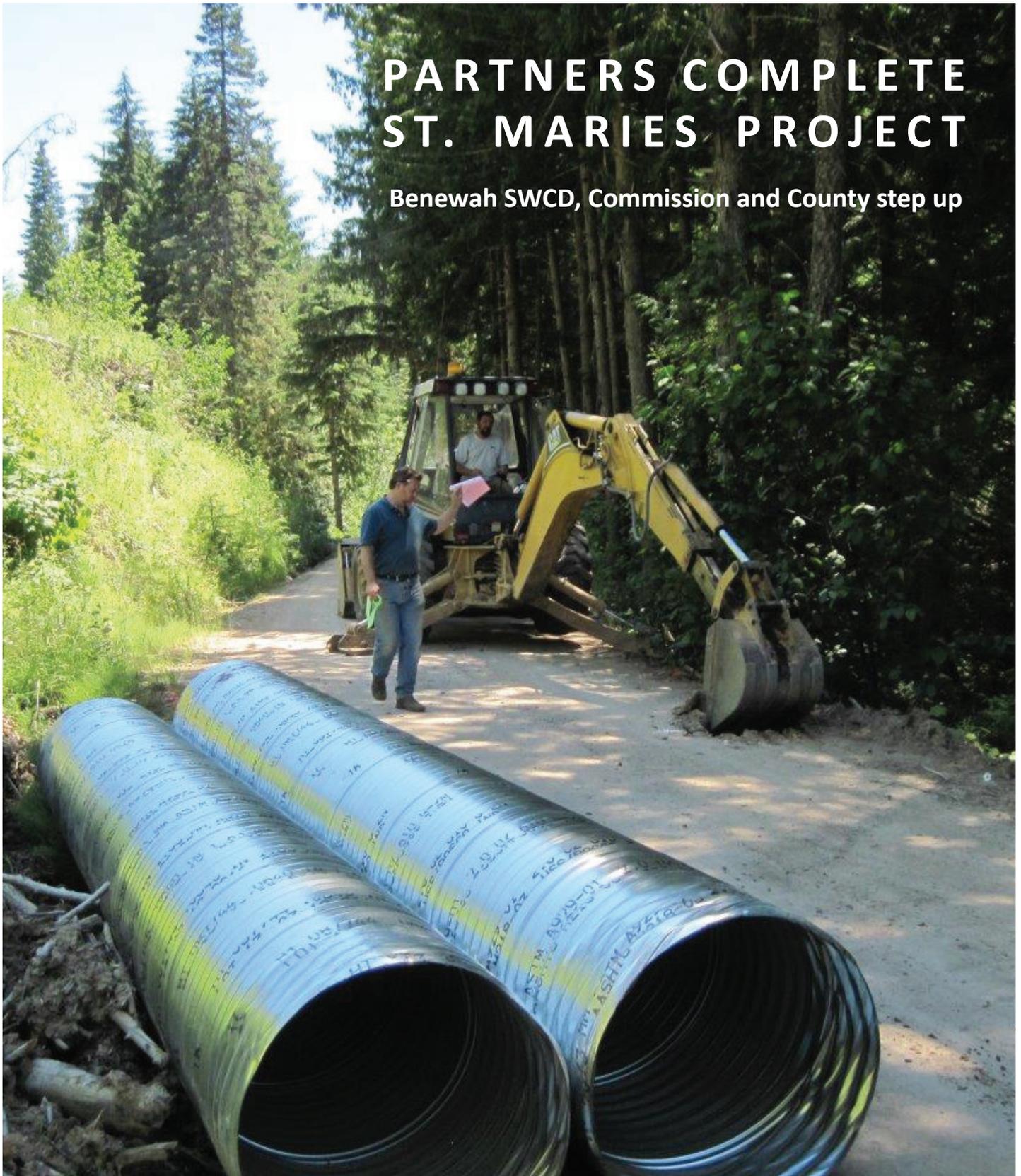


PARTNERS COMPLETE ST. MARIES PROJECT

Benewah SWCD, Commission and County step up



BENEWAH SWCD & COMMISSION OVERSEE 3RD PHASE OF ST. MARIES WQ PROJECT

By Steve Stuebner

The first and second phases of the St. Maries River water-quality improvement project went smooth, and the third phase was about to begin when a Benewah County employee that had been leading the projects retired.

The third phase of the project, which had been funded through a Section 319 water quality grant from the Idaho Department of Environmental Quality (DEQ), was bumping up against deadlines which would have resulted in the loss of funding and project benefits. DEQ reached out to the Benewah Soil and Water Conservation District (SWCD) to take on the administration of the project. After a quick grouping with Benewah County and conservation partners to determine feasibility of the project, the Benewah SWCD moved forward with the coordination of the \$235,990 project.

“The 319 grant was in peril of default, so we had to quickly restructure and reorganize the project,” Billie Brown, Benewah SWCD chair said. “We basically ended up starting from ground zero.”

Bill Lillibridge, licensed professional engineer, and Mark Hogen, water quality specialist with the Idaho Soil and Water Conservation Commission were contacted to fill the needed engineering and technical void and were available to help. “They took an urgent phone call and the Commission agreed to take on an integral role towards the implementation of the project,” Brown said. Project restructuring would also include an expanded I&E and monitoring role for Leann Daman, Benewah SWCD Administrative Assistant. Benewah supervisor Jim Pierce and Daman



The crux of the third phase was reducing sediment in a two mile section of Alder Creek Road, like the sediment above. Final projections have a sediment reduction of 104 tons per acre, per year.

were also both SEEP certified to augment the project’s monitoring requirements.

The grant was re-written with Benewah SWCD taking lead on the water quality project, the Benewah County Road Department serving as the project contractor for replacing culverts and performing road construction work, and Conservation Commission staffers Lillibridge and Hogen providing engineering designs and technical oversight. An additional benefit was that DEQ permitted the project time spent by Lillibridge and Hogen to count toward meeting much-needed matching requirements, along with the county’s contributions of man hours and equipment.

In the end, the matching contributions total \$159,656.50, adding to the total value of the \$395,647 project.

The crux of the third phase of the water-quality project focused on reducing sediment in a two-mile sec-

tion of Alder Creek Road. Alder Creek is a tributary of the St. Maries River, not far upslope from the community of St. Maries. In 2010, the DEQ’s Integrated Report indicated that cold water aquatic life may not be supported in the lower St. Maries River because of excessive sediment. Alder Creek was first listed as an impaired water in 1998 because of high sediment levels.

In 2003, the Environmental Protection Agency approved the St. Maries River Sub-Basin Assessment and TMDL Implementation Plan (jointly prepared by the Commission, the Benewah District, and the Idaho Association of Soil Conservation Districts), in which specific sediment-reduction targets were assigned to Alder Creek.

The single-lane dirt road running along Alder Creek needed significant repair to reduce sediment levels, Hogen and Lillibridge said. The road was first built as a winter logging road, and it needed more robust road base work and improved culverts to drain off sediment properly.

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“It pretty much was a goat trail,” Hogen said.

“It was like a big ditch,” adds Lillibridge. “Just about everything you can imagine was on the road, bits and pieces of old logs, old machinery, and all kinds of other stuff that was used to patch erosion problems along the road.”

In looking at the improvements necessary, Lillibridge recommend installing approximately 20 culverts along the road course, improving the road base with much more robust base rock 3-8 inches in diameter, and topping off the base rock with finer pea gravel to create a 14-foot-wide four-season road with pullouts.

“You’re taking a surface that was essentially mud and make it gravel – that’s going to be a substantial improvement – plus you’re fixing the drainage issues as well,” Hogen said.

The road improvements, completed this past summer, will also allow the Alder Creek Road to be used as an alternative access for homeowners in the Benewah Valley.

“I see the project as a win-win for Benewah County residents,” Brown said. “We all really worked together in tandem to get this project reconfigured and off the ground.”

“Yeah, it worked out real good,” added Phil Lampert, a Benewah County commissioner. “All of those improvements are going to keep sediment out of Alder Creek. And it provides an alternative route to the residents in the Benewah Valley. A lot of folks live up there and worry about getting in and out of there if there’s a forest fire. It’s all been positive for us.”

Hogen estimated that the road improvements would result in reducing sediment flows into Alder Creek by

90 percent. The erosion rate pre-project was about 180 tons per acre per year, he said. The erosion after the project would be about 4 tons per acre per year, he said.

“I think it’s turned out great,” Hogen said. “And adding another access to the homeowners up there could be huge from a safety standpoint.”

Beyond reconfiguring the project, Benewah SWCD and Conservation Commission officials worked together to get the permitting changed to reflect that the Benewah SWCD was the project lead. Brown feels that her district’s reputation for getting projects done helped with the transition. “It was gratifying to see that the DEQ had the confidence in us to carry through with the project,” she said.

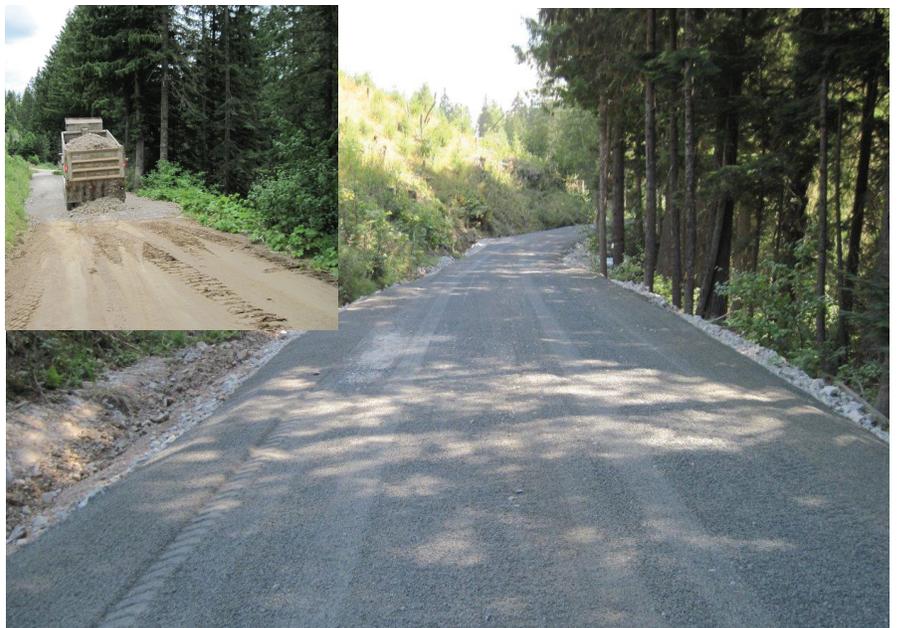
Multiple agencies including the Army Corps of Engineers, Idaho Department of Water Resources, DEQ, EPA and others had to approve the changes and they did so at an accelerated pace, Brown said. “It was really helpful to have the permitting

agencies get back to us quickly,” Lillibridge added.

In addition, the team had to put together a Storm Water Pollution Prevention Plan for the project because it disturbed more than one acre of land. The Plan is required by the EPA and DEQ. To fulfill the Plan, Lillibridge showed up early in the morning each day as the culvert and road work began, to take baseline water quality samples prior to disturbance and continued sampling during construction and after the work occurred. All of that information was reported back to the agencies.

To get as much work done as possible in a short time frame, the county road department deployed all three of their work crews on the project at once. It took about two weeks to complete the lion’s share of the work.

“I think Bill literally camped up there every day during the project’s construction phase,” Brown quipped.



Completed road (inset: the road received a robust road base. Taking it from muddy goat trail to a graveled, minivan navigatable road.)

ST. MARIES PROJECT, cont. from Pg. 3



Bill Lillibridge with the Commission (pictured) and Mark Hogen were on hand to address questions and provide guidance. Specifically guidance on culvert installation.

15 percent. At the outlet for the culverts, they used rock aprons and fabric so there was no erosion at that point. Lillibridge is going to continue to monitor the project after spring runoff next year to ensure that the drainage features are working properly.

The Benewah County road crews still have some finishing work to do on the road surface, but that will happen before winter comes, Commissioner Lampert said.

“For me, it’s been a fun project to watch it go from planning to fruition,” he said. “It’s not a speedy road, it’s a slow backcountry road, but it’s much nicer than it was. I drove my wife’s minivan up there, and I’ve never done that before.”

“The bottom line is that the project will keep sediment out of the creek and the St. Maries River. The proof in the pudding will be how it does down the road. We will make sure that the drainage features are working as planned after the runoff next spring.”

Steve Stuebner writes about conservation success stories for the Conservation Commission on a regular basis.

Lillibridge said he actually went home to sleep at night. But he and Hogen were on hand every day to answer questions and provide guidance on culvert-installation in particular. Many of the old culverts were undersized and got routinely plugged by sediment.

“Going to a larger size, the culverts should self-clean every year,” Lillibridge said. “But I wanted to make sure there was a good enough angle on the downslope so they self-clean correctly.”

In some cases, the road was too narrow on the corners, and log trucks had accidentally smashed culverts as they came around the corners, he said.

The best slope angles for the culverts was a minimum of 2 percent and some of them were as high as

(Cover: Bill Lillibridge over seeing culvert removal with new culverts ready to go in)

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