

Irrigation Management for Improved Habitat
Agreement No: LAP-20-21-014
Santiam Valley Ranch & Santiam Water Control District
Marion Soil and Water Conservation District

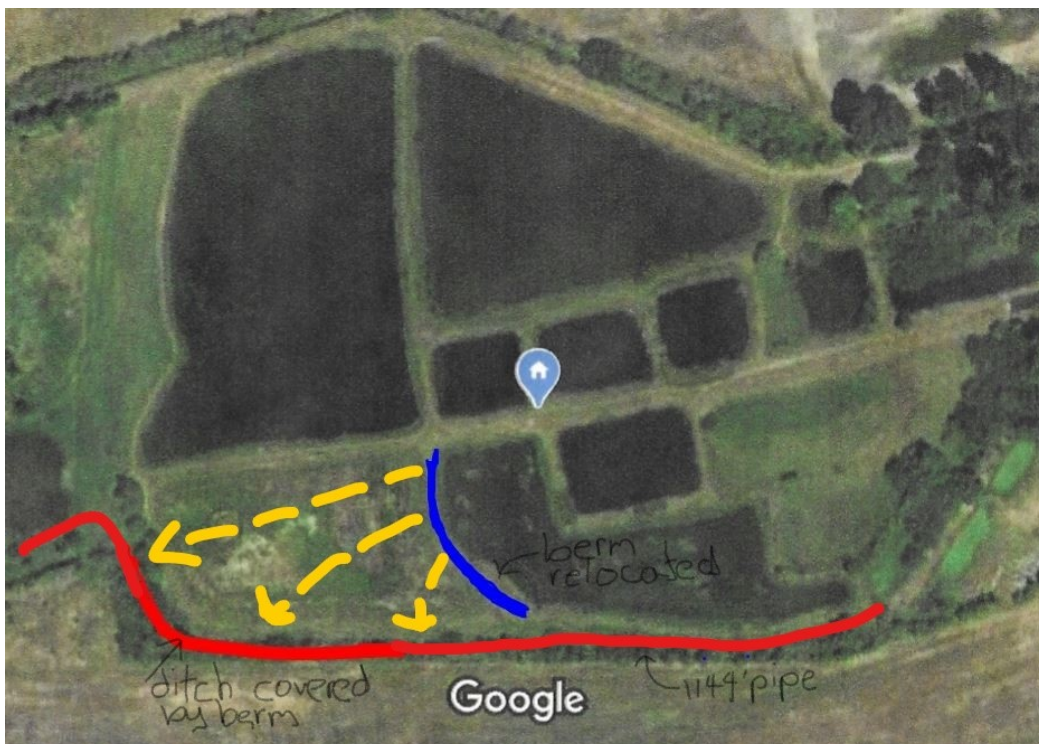
Executive Summary: (From Project Job Sheet, Irrigation Pipeline, NRCS Practice 430)

This project was submitted to Marion Soil and Water Conservation District (MSWCD) on July 29, 2020 for a Landowner Assistance Program. The Management Objectives was to install a pipeline to convey water through an irrigation ditch to an adjoining property owner. Installation of the pipe will deter nutria from inhabiting the area. The new system installed was sealed HDPE double wall pipe with corrugated exterior and smooth wall interior. System includes approximately 1,144 feet of HDPE double wall 8" pipe with trapezoidal flume at entry and animal guard at exit.

Conditions Prior to Treatment: Nutria, an invasive mammal, inhabit the area surrounding the irrigation ditch and are burrowing into an adjacent berm for a pond. The pond no longer holds water because of the damage caused by the nutria. Installation of pipe in the irrigation ditch will take away habitat for the nutria. This will allow the landowners to repair the berm and pond for water storage and use.

Project Requirements:

- *Landowner was required to ensure that no permits were required from Oregon Division of State Lands and U. S. Army Corps of Engineers for the project.
- *Landowner was required to provide a stamped review of project design by a civil engineer.
- *Landowner was required to enter into an agreement with Santiam Water Control District (SWCD) since the District maintains the irrigation easement for the ditch.
- *Landowner was required to enter into agreement with Marion Soil & Water Conservation District and completed two amendments to the project.



Project Implementation: The project was approved by Marion Soil & Water Conservation District on September 22, 2020. Efforts were initiated by the cooperators on September 25, 2020 when efforts were made to move the old berm with the backhoe. The dirt was too compacted. On September 29, John Asman, Santiam Water Control District (SWCD), brought the District's excavator to the farm and worked-up the berm. Santiam Valley Ranch's (SVR) backhoe was used between September 25-October 23 to move the old berm dirt to the ditch area. While the dirt was being moved by SVR, SWCD excavated the ditch using a laser and created the envelop to hold the pipe in the ditch. Pipe was delivered on October 9. SVR moved 60 pieces of pipe to the site on October 10 and 11. SWCD installed the pipe into the ditch and covered the pipe with dirt provided by SVR. SWCD installed the eccentric reducer from the culvert (on the east entry to the ditch) and attached it to the pipe. On October 25, SWCD completed the final transfer of filling the ditch area. The District's excavator was removed on October 26. During this time, SVR installed the pond drainage system. The surface area of the newly created berm was covered with native wetland grasses (Tufted hairgrass and Roemer's fescue) and covered with straw overlayment on November 4th. The flume and animal guard were installed on November 19, 2020.

The project began on September 25 and ended on November 19, 2020.

Total cost: \$17,788.80 offset by \$7,500 LAP grant from Marion Soil & Water Conservation District and \$5,632.35 in-kind match from Santiam Water Control District.

Adversities experienced:

- *The project was initiated later than expected due to the impact of the Beachie Creek Fire in the Cascades, followed by two weeks of smoke and related interruptions.
- *Water filled the ditch coming from a neighboring property on the west side. SWCD had to clean out the adjoining two ditches to get drainage re-established.
- *Because of seasonal rain, it was not possible to do the scraper work. This work was cancelled for 2020.
- *SVR experienced two repair issues on the backhoe that resulted in time-delays.
- *Time delays in getting materials shipped (pipe, flume) due to delivery problems from the pandemic.

Opportunities Realized:

- *The project of this magnitude was accomplished with incredible teamwork, communication and partnership with the workers and the agencies involved.
- *John Asman with Santiam Water Control District did an expert job with the excavator.
- *Others working on the project did so with enthusiasm and purpose. Everyone involved prioritized this effort, knowing that Oregon is entering the raining season and time was of the essence.
- *The goal of this project was to install pipe in the ditch to eliminate nutria habitat and related destruction of the pond berm. Thanks is extended to Jenny Meisel, Marion Soil & Water Conservation District and to Brent Stevenson, Santiam Water Control District, for their belief in working with us as a partner on this project and to ensure professional completion of this endeavor.
- *The flume installed will provide SWCD the ability to monitor water flow to an adjacent property.
- *SVR was able to complete a job way beyond our staff and equipment capabilities through the LAP grant provided by MSWCD and with in-kind match from SWCD.



Excavator breaking up berm so it can be moved by backhoe. (Oct 2, 2020)



Dirt from old berm moved next to ditch area. Dirt will be used by SWCD to cover the ditch after the pipe has been installed. (Oct 2, 2020)



Old berm broken up with excavator. (October 2, 2020)



Dirt from the old berm moved to ditch site to be used to cover the ditch. (October 2, 2020)



Dirt from the old berm moved to ditch site to be used to cover the ditch. (October 2, 2020)



Installing pond overflow. (October 1, 2020)



Taking out pipes with backhoe and distributing pipes along ditch. (October 10 and 11, 2020)

8" pipe installed in ditch.

(Photo provided by John Asman, Santiam Water Control District.)



8" pipe installed in ditch on west end.

(Photo provided by John Asman, Santiam Water Control District.)



Pipe installed and covered by dirt from the old berm, west view. (October 16, 2020)



View of ditch, east view. (October 16, 2020)



Pipe covered. (October 16, 2020)



John Asman, Santiam Water Control District, removes excavator. (October 26, 2020)



Review of site by Jenny Meisel, Marion Soil & Water Conservation District. (October 28, 2020)





Seeding and covering with straw. (November 4, 2020)



Seeding and covering with straw. (November 19, 2020)



Reducer installed by SWCD. (Nov 16, 2020)



Installing base for flume. (Nov 19, 2020)



Flume installed. (Nov 19, 2020)



Completed flume. (Nov 19, 2020)