



Stormwater Part 2

The increased amount of impervious surface that is covering our county is leading to more problems with stormwater.

The County has formed a Stormwater Utility to help deal with these problems and there is a fee for service that is going to pay to deal with the most pressing problems. In the short-term these are road flooding issues around Eastsound, Lopez Village and close to Friday Harbor. These road floodings are categorized as a public safety hazard and need immediate attention.

We live in an unusual county where we are neither urban (like Bellingham) nor rural. Many residents, particularly those in what they consider to be rural areas don't believe that we face stormwater problems, and that we certainly don't need to pay for them. However most of us are suffering from stormwater issues, they are just not that noticeable.

As an example let's consider my property. It lies on a gravel county road with a stormwater channel that runs alongside. Usually it's choked with Canary Reed grass (an invasive) and plugged with fallen debris. When it rains heavily the water overflows and erodes the county road. From time-to-time the county clear the drain and now water collects in it from about 1/2 mile in each direction. One neighbor has dug a channel down the length of his steep driveway (probably a mile long) and his stormwater then drains into this county ditch. The ditch's lowest point is at the bottom of a hill - directly opposite my driveway.

Somebody then placed a culvert under the county road and into a creek that follows my driveway for a short distance, then it is culverted under my driveway and disappears into the trees.

On the other side of my property an overflow from a neighbor's pond flows into a culvert that then flows into an artificial creek that flows close to my septic. The creek is culverted past the septic (this was legal and permitted 20 years ago) and then flows into my wetland where it

merges with the other creek and flows into my neighbors pond.

To the west the removal of a large amount of trees on an adjacent property to create a parking area has also created more runoff into my property. During normal weather both creeks are very pleasant additions to my property, but in flood conditions both cause problems. The stream from the county road soon overflows and erodes my driveway, flooding in some cases to a depth of 18 inches. Not impassable but I'm losing soil and gravel into the creek.

Water flowing down the slope emerges from the ground as a series of seeps where the slope ends and my driveway is cut into the slope. Here water washes away the fines from my driveway and potholes soon appear every winter. Eventually the whole driveway is under 2 to 3 inches of water.

Water flowing from the pond overflow soon fills the other creek and washes out uncontrollably at several points. I lose a lot of soil.

Finally water flowing downhill from the parking area to the west floods my meadow, and pours into the well - causing it to 'artesian' where water is actually being forced from the well head.

The first simple steps were to clear the creeks of debris, branches, and fallen boulders that were reducing flow in critical areas. I also dug out several large 'vernal' ponds with a backhoe. (Vernal ponds will dry out in summer when there is little flow.) These ponds are only a few feet deep and wide but are designed to help absorb some of the volume. I also made sure that the culverts are clear. At some point the culverts need to be replaced with larger sized ones.

I then dug a shallow trench (about 18 inches deep) on the uphill slope of the driveway. This seems to be deep enough to catch the subsurface flow. At the moment the

ditch is open as I let the flowing water smooth the trench out and help it find its own level. In summer I'll probably place a slotted drain pipe in the whole length and cover it with 2 inch drain rock. This has alleviated 90% of the water that would flow across the driveway. Finally it drains into the creek and I'm investigating ways of trapping the sediment in here before it enters the creek (probably using a simple rock weir).

On the slope where water is draining down into the meadow I dug a similar ditch (actually by hand) and lead it into a small pond (about 6 by 10 ft), the overflow from this then drains into the creek.

This creek ultimately merges with the other creek in a wilderness of scrub, downed trees and dumped household goods. I daylighted the creek by removing the scrub but not the mature trees (to help keep temperature cooler in summer) and have removed the trash, deepened the channel and created a few riffles by using strategically placed logs and boulders. The aim again to trap as much sediment before it leaves my property.

Finally the water from the two house downspouts is fed into the wetland through a small, constructed stream. It's all working well, cost very little (by using my own labor) and appears to be achieving its goals of putting water back into the lagoon as clean as possible.