

Sophia Cassam

From: Jan Alderton <janetmalderton@gmail.com>
Sent: Sunday, September 12, 2021 7:20 AM
To: Sophia Cassam
Cc: Cindy Wolf; Christine Minney; Jamie Stephens
Subject: Reducing Risk: Docket Requests 21-0008 & 21-0005
Attachments: Docket 21-0008 Reduce Risk.docx

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Dear Sophia,
Please post my comments below on the Comprehensive Plan Docket Requests comments site.
Thank-you so much!
Janet Alderton
Orcas Island

The Responsibility to Reduce Risks

I think my daughter's fate to become a civil engineer was sealed by two events:

I left a book titled "Why Buildings Fall Down" lying around our house when she was 12 years old.

And she was fortunate enough to have a woman civil engineer teach her Advanced Placement physics class in high school. Her teacher's husband had received a job offer that required them to relocate. As a result of their decision to place his career advancement above hers, my daughter was given a real life female civil engineer as a role model.

Quirkiness evidently runs in my family because my daughter began her essay for admission to the School of Civil Engineering at the University of California Berkeley with a humorous limerick about a civil engineer. She was admitted either because of or despite this limerick -we will never know.

She eventually received a master's degree in earthquake engineering - also at UC Berkeley.

Having a civil engineer in my family is probably why I keep referring to the "laws of physics" in my comments to you, our county decision makers.

Water flowing downhill over impervious surfaces is something that happens. You can say, "Oh, I would rather not think about it." But stormwater flows will happen regardless.

As the ultimate decision makers in San Juan County, it is your responsibility to acknowledge risks and reduce their impacts with thoughtful policy and code changes.

Civil engineers design structures and, in my daughter's case, earthquake and landslide risk reduction plans (funded by the World Bank) for entire countries, using the best available science. The engineering team doesn't just "consider" the science; they actually "follow" the science.

They design not for "average" risk, but for maximum predictable forces. Then they add extra design measures to avoid catastrophic collapse caused by unpredictable events.

For earthquake and landslide risk reduction, the plans show which places to avoid concentrating development, and especially avoid siting critical infrastructure. Design of individual projects is important in reducing risk as well.

Here is where this applies to San Juan County:

As more and more land is developed, more and more impervious surfaces are created. If we continue "business as usual", this will predictably result in greater damage from erosion, flooding, and landslides. And less aquifer recharge. Taking peak predicted loads into account in San Juan County

would consider peak population during tourist seasons. And then there is designing for the unexpected -the prolonged extreme drought, for example. Maybe we should call this "expected".

This is why Alexandra Gayek's Docket request 21-0008 deserves careful consideration. It addresses how to mitigate the inevitable increase in impervious surfaces that will accompany development in San Juan County.

Alexandra's suggestions must not only apply to new development; mitigation measures must also be required for existing development. If the new standards are only required for new development, the risk reductions will be too little and too late. Changes must be incorporated into our building codes in addition to just stormwater handing requirements. Building design affects the amount of stormwater produced.

The risks that will be addressed by these code changes are not only erosion, flooding, and landslide risks. The threats to our islands' water supply will also be reduced. We do not understand the limitations of our aquifers because they have been inadequately studied. But two things are certain: the capacity of our aquifers is limited and their recharge rate depends on slowing stormwater and allowing it to infiltrate our soils. Saltwater intrusion in wells near our shorelines can happen suddenly. The water in these salt-contaminated aquifers is then lost for human use.

Insisting on maintaining the attitude that "San Juan County is different" and that the laws of physics can be ignored is irresponsible.

The increase in our population has accelerated due to the pandemic and due to the perception that San Juan County is a refuge from Climate Change.

This “Fortress San Juans” attitude is obviously flawed. You don’t need a precise buildout analysis to recognize that we are resource limited -especially by water.

A Medieval Fortress situated on a hill and surrounded by a moat may that seemed protected from assault. But a sustained attack would eventually cause the fortress inhabitants to run out of food and water.

The combination of accelerated population growth and Climate Change needs to be viewed as just such a threat to our islands’ sustainability.

Please consider adopting Alexandra Gayek’s Docket recommendations. Please also consider adopting the Docket Request 21-0005 from Miles Becker.

Forest, shrublands, and grasslands are natural resources that slow stormwater and rainfall and allow our aquifers to recharge.

Please remove the Timber Harvest provision from the Shoreline Master Plan. The “fig leaf” justification for the “science” behind this provision is a Timber Harvest Plan for streamside buffers in Maine. The selective timber harvest in that plan was only allowed when the ground was frozen solid and covered by a thick layer of snow to protect the forest understory plants. How often do these conditions occur in San Juan County? Maybe if we enter a Little Ice Age (unlikely). And is frozen ground and a thick layer of snow required before timber harvest can occur along our shorelines? The answer is no.

No development in the Maine streamside buffers was allowed except for hiking trails. In San Juan County, entire houses, septic drain fields, gardens and orchards, and more, are allowed in the shoreline buffers.

Following the science and “considering” the science are completely different. The Growth Management Act only requires you to consider the science.

But wise and responsible leaders will follow the science and also address issues, such as affordable housing, water limitations, and people ignoring the existing regulations, that have been problems for some time. Ferry dysfunction cannot be ignored, either.

Please think like a civil engineer and reduce risks with sensible planning and regulations. Please build in resiliency to withstand not only existing and expected challenges, but unexpected as well. And above all, enforce the regulations with consistent and meaningful penalties that will deter our current islands’ culture of “I can do what I want and it will not matter to me personally or to these islands that I love.” When shoreline property owners have built more than 100 structures between the high and low tides over the last 10 years and only 14 of these structures were permitted, you know that something is seriously amiss.

Each violation adds to on-going ecosystem degradation and the loss of what I truly value in both our human and natural communities.

Janet Alderton
Orcas Island