

August 15, 2013

Mr. Arne Anselm
Ventura County Stormwater Program
Watershed Protection District
Ventura, CA 93003

Subject: Preliminary Draft Ventura County Hydromodification Control Plan (HCP)

Thank you for the opportunity to comment on this report. I appreciate you and your staff efforts to help the community understand this new regulation. I have reviewed the July 2013 version of this report as a one who will be implementing it for clients, and one who was a participant in the negotiations of the Storm Water Permit, at the time a representative for the City of Ojai.

From this long-term view you are getting some long-term comments that affect the implementation of this Hydromodification requirement. I use technical abbreviations such as Q10 to mean the 10-year flow, Permit to mean the Ventura County Stormwater Permit, BMP to mean Best Management Practice... to keep this letter a reasonable length.

General Comments

Hydromodification control is a technical term that could more understandably be called "channel stability control" or "channel erosion control". I suggest you use the more understandable terms for those developers, engineers, planners, and public servants who will have to use or meet this requirement for their projects. The project champion may hire an expert, but all involved should understand the basic scope of the regulation.

The specific niche that this Permit calls "Hydromodification Control" really fits within a spectrum of controlling storm flows from a site. The water quality BMPs from the Stormwater Permit, designed for Q2, do have an effect of reducing flows off site, and thereby reducing Hydromodification. At the other end of the spectrum, flows of the 10-year runoff event are included in County and City flood detention requirements, where the Q10 thru Q100 must be controlled such that flows do not increase after development for that full range of flood frequencies. As a Practitioner on a site design, I start with the water quality BMPs and then design the Q10-Q100 detention requirement. I don't think that there will be many additional Hydromodification requirements once I meet those two bookends of Water Quality and Detention, making this new Hydromodification test most likely redundant. I am open to others experience here, but I see limited benefit from doing this sophisticated analysis.

I suggest an early section in this report to guide the Practitioner and site developer to these other related runoff regulations and to recommend an integrated approach to site design.

Also I suggest the County staff who routinely review flood detention requirements to consider how much this additional Hydromodification requirement will impact channel stability. Another source of information may be locations that already have implemented Hydromodification practices like San Diego County. If there is some level of confidence obtained about the detention requirements, then the HCP could easily be met by the combination of the Water Quality BMPs and the Flood Detention Requirements. There needs to be some consolidation of these runoff related requirements, there is too much overlap and unjustified costs associated with Hydromodification without considering how existing regulations already deal with most, if not all, of the Hydromodification concerns.

The option of considering regional facilities to address Hydromodification controls is a wonderful route for watershed planners and should be considered by each of the Ventura County watershed councils. Individual projects can only account from small changes in watershed channel behavior, where stabilizing a channel may need more urgent and larger scale response.

This is definitely a well-researched and professionally edited report that will meet the letter of the law. However it does not recognize or discuss the related runoff regulations, and does not appear to be edited for "understandability" to the likely users of developers, planners, and engineers. Is it intended only for geomorphologists? The report is very technically focused and I suggest some effort be made on the final draft to edit for the more general range of technical people who will be users of the manual. A worked thru example would also enhance the understandability by the likely audience.

Specific Comments

Section 1: Page 9: Hydromodification vs. Flood Control.

This seems to be written with an attitude. Why not "Hydromodification Control within Flood Control"? It appears the writer only thinks of flood control as the 100-year event. Flood control and flood detention requirements cover the bigger storm events from the 10-year to the 100-year. Floodplain analysis goes beyond to include the 100-year and the 500-year events. Certainly Hydromodification is a subset of Flood Control, not a new competitor.

2nd Paragraph from bottom of page...The reference to the claims that "In fact, geomorphic research has found that for most stream channels the most important range of flows from the perspective of affecting channel form are the relatively frequent... to end of paragraph. This is a misguided perturbation statement. In Arid zones in practice the Q5 to the Q10 are the channel forming events, what I understand as geomorphically-significant. To claim the 10% of Q2 as a channel forming event needs much better documentation than is shown, it is not believable for an arid or semi-arid zone hydrology.

Section 2: Nicely done

Section 3: Applicability

Page 29 – Applicability maps – these are helpful in screening projects. The outflow of Simi Valley and Moorpark are into a channel that has a Q100 of 24,000 cfs, just under the threshold of 25,000 cfs. This threshold should be reviewed – maybe as the Negligible Risk option.

Page 28 – HCP Effective Date – put this up in front of the report. Details may stay in this section, but a exec summary or FAQ should include this.

Page 31 The Negligible Risk – this could be analyzed by the Cities and the County to determine where there is negligible risk to screen projects.

Section 4: Hydromodification Management Standard

Goodness-of-fit criteria. Why are we starting at 10% of Q2? Q2? Or Q5 would be reasonable for geomorphically- significant flows. See comments about Appendix E below.

Page 37 Method 2 - Regional Control. This gives a most reasonable approach to really protecting channels, rather than controlling projects one by one, and has a potential to reduce existing property development impacts on channel stabilization.

Section 5: Hydromodification Control BMPs

How about Channel Stabilization BMPs?

Page 40 – 2nd paragraph – this is a wonderful paragraph acknowledging the impacts of the WQ BMPs. Now just add a reference to the flood detention requirements and this would cover the spectrum of what a designer will need to consider.

Good lists of option for BMPs

Section 6: Sizing Guidance

This section is well written for geomorphologists and could only be improved by adding an example worked all the way through.

Section 7: Monitoring

This section at least tries to deal with a practical approach to monitoring. Small property sized Hydromodification BMPs will inevitably run into maintenance funding issues. That is why Flood Control functions of the County government and regional projects have the better possibility of long-term maintenance.

Appendix E Basis for High and Low Thresholds

There is a theme in this appendix of seeking the conservative thresholds. The assumption of water moving sediments is overly conservative by using sandy material. Page E-3 admits the channels in Ventura County have gravel and cobbles. At least this appendix should consider gravels and cobbles. This becomes a significant and problematic pattern in this report – of overly conservative assumptions about geomorphology-significant flows and requiring all who use this manual to mitigate more than they really need.

Conclusion

For the long-term perspective, are we really interested in stabilizing our channels or just trying to make a stormwater permit pull new developments into the world of geomorphology?

Please contact me if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "William O'Brien". The signature is written in a cursive style with a horizontal line underneath the name.

William O'Brien, PE
Principal Engineer
NextGen Engineering
billo@ngeneng.com