

Matthew R. Schmitz

From: Kurt Barker <kurtb@wapsievalley.com>
Sent: Tuesday, June 24, 2025 7:50 PM
To: Matthew R. Schmitz
Cc: Ryan Nielsen; Mark Nielsen
Subject: Stormwater Detention Policy Comments
Attachments: Independence City Ordinance 2025-102 - Review Notes RMW (002).docx

Matthew,

Attached is the code with references I found in red that we believe has more detailed definitions and or design requirements. In the blue is additional comments from Ryan M Wicks of Fehr Gram and with his permission I have included his overall comments on the code below.

Another consideration is that we develop a management plan as it pertains to the regional or industrial campus. We can accomplish the same purpose of the storm water management ordinance if we consider that some of our “sites” as defined in the ordinance, or parcels, have a greater positive impact to storm water management verses another “site” within the same storm water system.

It would therefore be in all parties’ best interest if we were given credit when improving a site or dedicating a site for storm water detention beyond the need for a particular site, to be in a better position for future expansion planning. Some examples, we could add 12”+ of topsoil to the more than 20% of the greenspace of the administration building site and or we could lower the grade of our 10th street gravel lot to allow some flooding in a 10year rain events while also controlling the release, both examples would offset other drainage on the regional or industrial campus.

Another consideration is that any site under 2 acres and has a minimum 20% greenspace, doe does not require a storm water management plan. The greenspace could be further defined as simple acceptable green infrastructures that reduces runoff to traditional drainage systems, improves water quality, and enhances infiltration, some examples, green roofs, permeable pavements, and rain gardens.

<https://iowastormwater.org/green-infrastructure/>

Ryan M Wicks comments

Hello Kurt,

I reviewed the shared document and added a few comments (blue text in the attached document, see pages 2 and 4). Overall, the code, as currently used by Manchester and proposed by Independence, is sound and allows for site-specific review and consideration. On many projects, we have had site-specific conversations with the municipality and frequently convey alternatives to what is commonly assumed to be a large basin to meet code requirements. That doesn't mean there are major variances approved by the community, but items such as downstream improvements, use of infiltration or simply clearly defining the discharger rate based on the current condition vs. the proposed is helpful and determining the most practical solution.

A major function of stormwater management for any community is to protect the existing public from the impact of increased stormwater runoff, which is created as land is transformed from permeable to impermeable. An important part of the review and design process for all new and redevelopment projects is to assess the downstream systems and ensure that the proposed changes do not negatively impact the existing systems downstream.

As proposed, the code specifies releasing storm events from a new or redeveloped site at a maximum discharge rate equivalent to the 5-year predeveloped site conditions. This remains the most common requirement as it has been in place

for many communities for some time. A few communities we have worked with have allowed variations of this approach, using the 10-year predeveloped maximum release rate or release rates not exceeding the existing discharge rate for a given event. I honestly would not recommend such a release rate to any of our municipalities.

Several communities are transitioning to the unified sizing criteria approach for stormwater management. <https://iowastormwater.org/stormwater-design/> This approach is not entirely different, but it does incorporate additional review of smaller events, infiltration, water quality, and stream protection.

Considerations for your site looking ahead will be related to an evaluation of the downstream stormwater system and the existing overflow route for large storm events. Based on our conversations and past reviews in the community, it is likely that the existing storm sewer does not have excess capacity, and the overland route may already have undesirable impacts. With that in mind, a proactive approach to review options and use a combination of on-site improvements and downstream system upgrades will likely be the best overall solution. As called out in the proposed code, the concept of directly running storm sewer to the river is a viable option and can be considered. We may find that the size of the storm sewer and impact on other properties to convey the 100-year event may be more costly than providing a combination of onsite detention and downstream improvements. Regarding on-site detention, it may be possible to utilize a portion of the gravel surfacing as a "detention basin" instead of taking an area out of use and creating a grass-bottom basin. With this approach, when extreme events occur, you will experience short-term flooding in the lot, but the location will not be taken out of use indefinitely. This is common with larger retail sites, as the parking lot is often designed as a large bowl with the low point further away from the building. The design depth of storage is relatively shallow to avoid damage to personal property. In your specific scenario, if the lot is being used for trailer storage or for turning movements, is it critical if there is 6 or 12 inches of water over a portion of the lot for a day or so every 5 or 10 years?

Big picture, it is important for the City to have a code of this nature to help protect its infrastructure and its citizens, and as long as there is room in the code to have sound conversations on best practices for both the developer and the City, there is a means to a sound solution.

I believe there is flexibility in the code as presented to work with the City to complete a review of your overall concept, review existing conditions, proposed conditions and the downstream capacity of the existing system and develop a plan with the City which meets your objectives and doesn't negatively impact the downstream land owners or the City's stormwater system.

Let me know if you have questions or would like to further discuss your overall plans. Big picture, stormwater management does require some review and evaluation, but the upfront design investment will reduce project construction cost and overall land use impact.

Thanks,

RYAN M. WICKS, PE | Principal
Fehr Graham | Engineering & Environmental

Thank you,

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